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PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, OCTOBER 11, 1879.

ORIGINAL LECTURES.

CLINICAL LECTURE
ON DYSPNŒA AS A SYMPTOM OF INTRATHORACIC PRESSURE.

Delivered in Philadelphia Hospital, September 20, 1879,

BY EDWARD T. BRUEN, M.D.,

Physician to the Hospital, Lecturer on Pathology of the Urine in the University of Pennsylvania, etc.

THE patient before you this morning is named George W., æt. 38 years; was admitted to the hospital September 9, 1879. Type-maker by trade; of good family history; denying any form of syphilis, but acknowledging the excessive use of alcohol for many years. Six weeks ago he had an attack of what he called asthma, but very mild in its manifestations, amounting only to shortness of breath, with coughing. A week before his admission the dyspnœa increased, his voice began to be hoarse, and at intervals he lost the power of speech.

September 15, he had a most terrible paroxysm of dyspnœa, with all the attendant phenomena of asthma, but the suffocative symptoms were far more severe than in most cases of asthma. The pulse was very weak and irregular; the surface of the body was blue and clammy, even the arms becoming purple. The paroxysms lasted until it was thought death would follow, when he slowly began to revive, although the spasm of the bronchial tubes appeared to persist as before.

September 18 and 19, he had similar paroxysms, perhaps not quite so violent. There is much difficulty experienced by him in swallowing both solids and liquids, but no pain.

This morning, the 20th, he had another paroxysm at six o'clock, which passed away leaving him in the condition of dyspnœa above described.

The important symptoms to remember as a group are, the recent date of the first attack, the character of the dyspnœa, the dysphagia, and the impairment of voice. Finally, it will be well for you to recall the expression of the patient's face, as unlike that of an asthmatic individual. If you had casually glanced at our patient in the ward, you might have supposed him to be suffering from a simple asthmatic seizure; but important differences from ordinary asthma are easily recognized.

There are three varieties of asthma which we clinically confront; one of these is the common variety of asthma often associated with or preceded by emphysema and bronchitis, and which is attended with spasm of the bronchial tubes and other familiar phenomena, but its etiology is yet an unsolved problem.

Is our patient the victim of ordinary asthma? I think not, because, in the first place, the initial paroxysm occurred only six weeks ago, while previously he had enjoyed excellent health.

The paroxysms also at first were very light,—merely noticed by him as spells of shortness of breath; but they have rapidly increased in severity and frequency, till at present they occur almost daily. In the intervals of the attacks he has dyspnœa, with whistling respiration, although there is no bronchitis, while in the ordinary attacks of asthma, unless there is concomitant bronchitis and emphysema, the close of the paroxysm brings with it a marked remission or entire relief of the symptoms.

Another variety is the asthma which is sometimes associated with Bright's disease of the kidneys, called uræmic asthma. This variety is dependent upon a spasm of the arterioles of the lungs, induced by the direct impression of circulating undepurated blood upon the controlling vaso-motor centres.

This form is not associated with spasm of the bronchial tubes, for auscultation can furnish satisfactory evidence that air enters and passes from the bronchial tubes without hindrance. It is very easy to exclude this species of asthma, for there is no dropsy or other evidence of Bright's disease, and the urine is normal.

But we also have asthma with spasm of the bronchial tubes from the pressure of a tumor upon the pneumogastric nerve or its branches.

We are taught by physiology that the tenth nerve contains both accelerator afferent fibres and inhibitory afferent fibres, the accelerator fibres predominating. Rosenthal declares the respiratory centre to be the seat of two forces of conflicting nature, the one laboring to generate respiratory influences, the other tending to offer re-

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sistance to the generation of these impulses, the alternate victory of the one over the other leading to rhythmic discharges of force and the regulation of respiration as we find it in health. We also know that the superior recurrent laryngeal nerve is composed mainly of inhibitory afferent fibres, by the stimulation of which respiration can be brought to a stand-still, the respiratory apparatus remaining as at the close of expiration. This effect can also be produced by first exhausting (so to speak) the neurility of the accelerator afferent fibres of the main trunk of the pneumogastric nerve, which permits the inhibitory fibres to obtain the controlling influence, and thus reduces or stops the respiratory action, just as when the superior laryngeal branches are stimulated.

Now, if pressure is brought to bear on the pneumogastric nerve or its branches which supply the bronchial tubes, as happens in some cases of tumors within the chest, it appears to me we can have two effects,—first, a *continued* irritation of the afferent nerves, and a *continuous* spasm of the tubes in consequence; which implies, secondly, deficient aeration of the blood.

The accelerator fibres are, in common with the whole nerve, excessively sensitive to the influence of the non-aerated blood; therefore we can understand that there must be continuous over-stimulation of the accelerator fibres. It seems to me, therefore, that at intervals the neurility of these fibres will become exhausted, and thus will be brought about a paroxysm which may end in almost absolute asphyxia through the temporary ascendency of the inhibitory fibres. This does not prevail in simple asthma to the same extent, because the attacks cease with the relaxation of the bronchial tubes, and the symptoms of suffocation in cases of pressure arise from the prolonged deficient aeration of the blood. In the case before us there has been constant spasm of the bronchial tubes since his admission to the house, but at times he has seemed about to die; he becomes cyanosed, cold, and respiration almost ceases,—due, I believe, to the inhibitory influence I have attempted to describe. If it is possible to explain these symptoms by pressure, can we find in our patient any evidences of pressure?

Physical examination tells us that there is a tumor situated between the second and the fourth rib on the right side, at the point of their union with the sternum. The tumor extends laterally three and one-quarter inches to the right side from the median line of the sternum, as demonstrated by percussion. The right side of the chest measures eighteen inches, the left sixteen inches, at the level of the second rib. The cardiac dulness appears to begin as usual, but cannot be defined accurately, because it is covered with emphysematous lung-tissue; but the apex-beat can be felt in the sixth interspace, three-quarters of an inch to the left of the nipple, indicating hypertrophy. There is also a pulsation in the second interspace, at the seat of tumor, which is heaving in character. The radial pulses occur later than the femoral,—an important sign of aneurism of the arch of the aorta. There is also a systolic murmur to be heard over the base, but more distinct at the tumor; it is low and prolonged in character; it is transmitted into the arteries of the neck, but is faintly heard at the apex, and at the ensiform cartilage is nearly lost. There is no murmur in the femorals or down the aorta posteriorly.

The variations in murmur in aortic aneurism are, perhaps, familiar to you, from your studies of Walsh and from the demonstrations in the ward classes; time forbids me to enter upon their discussion in this case. A tumor situated as I have described is very suggestive of aortic aneurism, the symptoms of which are often dependent upon the direction of growth of the tumor.

In this case we have dysphagia, but the difficulty is as great when there is an attempt to swallow liquids as solids, and is not associated with pain, but merely with the sense of choking, which the act of swallowing induces by causing the patient to hold his breath. Therefore I decide that he has no pressure on the œsophagus. He has aphonia at intervals; this implies irritation of the recurrent laryngeal nerve, which supplies all the muscles of the larynx except the crico-thyroid, and by rendering it possible to approximate the vocal cords, and also to render them tense, is principally concerned in phonation. There is, I believe, simply irritation, not direct pressure on it, because at intervals his voice is distinct. We should not, indeed, expect that the recurrent laryngeal should suffer pressure, because it is only on the left side that it curves under the aorta. But if it is not pressed upon, and if the paralysis of the vocal cords induced by irritation is only temporary, we must seek elsewhere for the explanation of the symptoms of dyspnœa, from which our patient suffers so much torture that his life is threatened. For this explanation I refer you to the views mentioned in the early part of my lecture upon the effects of pressure on the pneumogastric nerve. Indeed, from but one other source could the symptoms arise (I allude to the possible pressure of the tumor on the bronchial tubes); but there is no evidence of pulmonary collapse, and everywhere we hear vesicular murmur. Have we evidence from his history that we can use to support the diagnosis of aneurism? There is no syphilis to which we can trace arteritis,—as so often can be done,—but we have his acknowledgment of a life spent in the free indulgence of the passion for alcohol.

What more potent cause of arteritis? For you must agree with those who consider this the antecedent to aneurism, because in your daily experience you see individuals constantly engaged in lifting or carrying (*i.e.*, placing an undue strain upon their arterial system) with impunity, while in others much less exertion sows the seeds of aneurism. We have no evidence of heart-disease or its result, dropsy; so that we may, I think, consider that the evidence points in one direction only.

It is true that I have seen an abscess the result of caries of bone point in this situation, as well as abscess from softening gummata. But, although our patient received a kick in the chest, I can detect no evidence of local injury, and, as I have said, there is no admission of syphilis, nor, indeed, are there any symptoms indicating suppuration. The comparatively short period since he noticed any departure from health militates against malignant or other new growth; nor is there any distention of the superficial veins of the chest, as would be the case if this tumor had its origin in the mediastinum.

I regret to say that I fear nothing can be done to relieve our patient permanently. Tracheotomy is not to be thought of, as the obstruction is not in the larynx. Indeed, electrolysis seems to be the only operation capable of giving succor, for, if successful, the layers of fibrine will probably gradually contract as they accumulate. All other modes of treatment will be too slow to be trusted, in the face of the serious pressure-symptoms present. Pending a decision on this point, we must have recourse to the antispasmodic treatment employed in asthma in order to alleviate the paroxysms. Upon this class of remedies I wish to address you later in the winter.

ORIGINAL COMMUNICATIONS.

A CASE OF BONE-SYPHILIS IN AN INFANT, ACCOMPANIED BY PSEUDO-PARALYSIS AND A PECULIAR INTERMITTENT LARYNGEAL SPASM.

BY ARTHUR VAN HARLINGEN, M.D.,

Chief of the Skin Clinic, Hospital of the University of Pennsylvania.

THE case I am about to describe belongs to a class of which not very many examples are upon record, and which, in this country at least, has not attracted much attention. With the exception of a few scattered cases reported in the journals (none of which are in all respects similar to the one I am about to report), the admirable monograph of Prof. R. W. Taylor,* and a brief mention by MacNamara,† little or nothing, so far as I am aware, has been written in English on this subject. I feel, therefore, that no apology is needed for placing the case upon record, although it is but a single one, and although I have but few remarks to offer upon the affection in general.

Pauline Vivien H., a colored infant, was born of parents both of whom had been under my care for syphilitic disease during more than a year previously. The child, though fat and well nourished at birth, displayed mucous papules about the anus, in connection with catarrh of the nasal passages, about the beginning of the second week. No other symptom of disease appeared for several weeks, at the end of which time a certain progressive falling off in flesh began to be observed. When the child was about seven or eight weeks old, the mother noticed, one day, that the left leg had become suddenly powerless, and that there was a certain amount of swelling about the knee-joint. This seemed to pass away spontaneously, but a few weeks later the left arm also became similarly affected, the fingers only being moved, and the limb hanging down as if paralyzed. When the arm was raised at the shoulder the child cried out; movements at the wrist and elbow were, however, painless. No change occurred for a week, except that the pain, on movement at the shoulder-joint, grew rather less. At the end of that time the mother began to notice an enlargement in the upper third of the arm, which, at first hardly perceptible, increased day by day in size until the infant was brought to me for treatment. The origin of the trouble was attributed by the mother to a fall sustained a few weeks previously, at which time it was supposed that fracture of the arm or a dislocation at the shoulder-joint had taken place.

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* Syphilitic Lesions of the Osseous System in Infants and Young Children. New York, 1875.

† Clinical Lectures on Diseases of Bone. London, 1878.

When she first came under observation (February 19, 1879), the following brief notes of her condition were recorded:

She was at that time three months old, and, although decidedly ill nourished and thin, especially about the buttocks and lower limbs, was not actually emaciated. She had been fed upon condensed milk, which seemed to be well digested, as she suffered neither with vomiting nor diarrhœa. There was a rather scanty erythemato-papular eruption about the buttocks, tending to moisture. The epidermis was peeling off in fine flakes here and there. The child was suffering with well-marked nasal catarrh, together with slight bronchitis. Circumstances prevented a careful examination of the bone lesions at the time, but the following appearances were noted. There was a pigeon-egg-sized enlargement on the anterior and inner face of the left humerus, in its upper third, which appeared slightly, or not at all, painful to the touch. The arm hung in pronation quite flaccid and powerless, excepting that the muscles of the fingers seemed to retain some strength. She was ordered ung. hydrargyri, spread upon a flannel belly-band.

Two weeks later she was seen again, and her general condition noted as worse. Although her appetite continued good, she had become more emaciated, and suffered with nocturnal pains. The mucous patches about the buttocks had healed entirely, but the bone lesions had become more marked. About a week after the first visit the mother had noticed a sudden loss of power in the child's *right* arm, unaccompanied, as she thought, by swelling at any point. On examination, I found her condition as follows. The right humerus displayed an enlargement at the lower third, which was flattened before and behind but bulged out on each side. The tumor was somewhat tender on pressure. Even slight movements of the arm at the shoulder caused pain there, although there was no swelling about that joint. At the junction of the lower and middle thirds of the left humerus there was a somewhat larger tumor, which appeared to proceed from the anterior and outer surface. Both wrists were somewhat swollen, the left more markedly so than the right; the lower epiphyses of both bones seemed to be involved. There was some some slight motion, apparently, between the epiphysis and the diaphysis of both radius and ulna. In the lower third of the left femur there was a swelling just above the epiphysis; the knee-joint was in no way involved.

On March 13 the first opportunity offered for a thorough examination, when the following appearances were noted. The bones of the skull were apparently quite normal and free from enlargements, as were also the vertebræ, scapulæ, clavicles, ribs, and pelvis. There was some enlargement about the head of the right humerus, where a collar-like ring of bony deposit could be felt. The swelling on the outer side of the shaft of the humerus noted at the last examination had diminished somewhat in size. There was a very slight enlargement of the lower end of the right radius, but otherwise the bones of the forearm and hand were free from apparent disease. The radius and ulna were freely movable upon each other at the wrist. The pseudo-paralytic condition had nearly disappeared. A similar condition existed in the left arm, excepting that the humerus was distorted, being bent at its upper third, at the point of enlargement above noted, to an angle of nearly forty-five degrees, and bow-shaped, with the convexity outwards. There was still some tenderness about the shoulder-joint, although not as much as there had been a week previously. There appeared to be a partial separation between the diaphysis and the upper epiphysis of the left humerus. The condition of pseudo-paralysis in the left arm was beginning to improve, Nothing abnormal could be noticed in the lower limbs, excepting some slight enlargement in the lower ends of the tibiæ. Motion in the left leg seemed to be quite restored; in both it was now normal. There appeared to be slight cutaneous anæsthesia. The liver was found, on percussion, to be somewhat enlarged, the spleen decidedly so. The child's general condition was improving.

A curious phenomenon exhibited itself for the first time during this visit, namely, a peculiar recurrent spasm of the larynx. This spasm occurred in frequent attacks of brief duration, coming on quite suddenly, without cough or other premonitory symptoms, checking the breathing entirely, and giving rise to the most agonizing efforts at inspiration, lasting for some seconds, and finally giving way, with a long-drawn breath, not followed by a cough. It appeared to be excited by handling, particularly by laying the infant on its back, and, by the mother's statement, had occurred for some days past during the daytime but not at night. The left arm was confined in splints, with a view of preventing further deformity and restoring it to its normal shape. The medicated bandage was continued.

On March 14 the general condition was the same. It was observed that the laryngeal spasm seemed to be accompanied with a slight cough. The bandage was discontinued and the following mixture ordered:

℞ Hydrarg. bichlor. corros., gr. ¼;
Potass. iodid., ʒj;
Syrupi et aquæ, āā ℥ss.
M. Six drops to be taken thrice daily.

On March 21 slight salivation was noticed, and the medicine was reduced to five-drop doses. The child was becoming emaciated. She did not seem to suffer so much pain, however, and the condition of the bones was evidently improved. The head of the humerus, it appeared, had been decidedly enlarged, since it was now evidently much reduced in size, while the swelling on the shaft of the bone had also become smaller. The enlargement on the right humerus had also become lessened in its dimensions. There were no other swellings, excepting in the bones of the carpi of both hands, which appeared slightly thickened. The radius and ulna on both sides were normal to all appearance. The lower ends of the femora of both sides seemed slightly enlarged, and also the heads of the tibiæ, although these changes were uncertain. The phalanges of the great toe of the right foot were slightly swollen, particularly the second. There were no other bony lesions in body or limbs. The submaxillary and sublingual glands were considerably enlarged; slight pressure upon them gave rise to evident pain and called forth the laryngeal spasm above noted, which also continued to arise spontaneously at intervals, though not so severe as it had been. It should be here stated that neither up to this time nor subsequently were any lesions of the interior of the mouth or pharynx observed, nor did there appear to be abnormal tenderness on pressure applied outside of the larynx and glottis. The infant continued to eat well, being fed on condensed milk. She was directed to continue the medicine, together with Keasbey & Mattison's infant food. The arm was kept in splints; it was gradually regaining its proper shape.

On March 26 it was noted that the laryngeal spasm was less marked. The left humerus was smaller, but was still very much bent out of shape. In other respects the bony troubles were in very much the same condition as at the last examination. The medicine, not agreeing very well, had not been given with regularity. It was now stopped and the bandage was again directed to be used. This was the last time at which the child was seen. She was taken out of town shortly after, and I have been unable to learn her subsequent history.

It will be observed that the syphilitic history of this infant, both as regards its parents and with reference to the characteristic lesions displayed almost from the moment of birth, is complete and beyond question. In addition, the influence of treatment, although this was imperfectly carried out, was decidedly favorable. There can be no doubt as to the diagnosis of these lesions; no question of rickets, since the whole history of the case forbids such a supposition.

The chief symptoms noticed, in addition to the skin manifestations, the naso-bronchial catarrh, the laryngeal spasm, and the cutaneous anæsthesia, were those connected with the osseous system. To recapitulate these: there were enlargements about the head of both humeri and in the upper third of the left humerus, at the junction of the middle and lower thirds of the same bone. There was evident separation between the diaphysis and proximal epiphysis in the left humerus, together with motion at this point and marked resultant distortion of the limb. There was an enlargement in the shaft of the right humerus in its lower third, and there was some slight enlargement at the lower end of both radii and ulnæ, the shafts of which were movable on the epiphyses. The bones of the carpi of both hands were enlarged. In the lower limbs the distal ends of the femora were slightly increased in size, as were also the heads of the tibiæ. The phalanges of the right foot were also the seats of similar changes.

In connection with these osseous changes the peculiarly striking pseudo-paralysis of both arms and of the left leg is particularly worthy of notice. As will be seen by reference to the notes, it was this condition of affairs which first excited the mother's anxiety and caused her to seek advice, for the bone lesions had not at the time of her earliest visit attracted much attention. It was this condition of pseudo-paralysis which first drew the attention of Parrot* to the disease, causing him to give somewhat undue prominence to this symptom, which Taylor rightly considers as only of secondary importance.

"This false paralysis," says Taylor,† "is simply an indisposition or want of power to move the limbs, owing to a false point of motion existing in their continuity. The same features are observed, and the same conditions obtained, in cases of fracture of bones, and, as they are explained in so simple a manner, I hardly think it necessary to so magnify their importance as to burden literature with another name for them. The appearances presented by children whose bones are thus affected vary, of course, with the particular one involved, as with the end which is involved, and are in the main those which would be observed if any of them were fractured, except, perhaps, that there is much less sensitiveness and swelling of the surrounding parts generally. . . . Owing to the existence of a false joint, or rather false point of motion, there is a total relaxation of the muscles, and no movements are made in the limb."

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* Sur une pseudo-paralysie causée par une altération du système osseux chez les nouveaux-nés atteints de syphilis héréditaire. (*Archives de Phys. Norm. et Path.*, 4me an., Nos. 3, 4 et 5, 1872.)

† *Loc. cit.*, p. 110.

As to the bending of the humerus, this lesion, although only rarely observed, has been noted in other cases. The condition was due, as can easily be understood, to the preponderance of action of the flexor muscles over the extensors acting upon the lower segment of the limb in which a false joint existed.

The pathology of the bone lesion may be briefly stated as periostitis, osteitis, and, perhaps, as Taylor says, osteochondritis. Of course it is not simply inflammatory; we have also a deposit of granulation tissue.

With regard to the laryngeal spasm, so prominent a symptom in the latter part of the history of my case, I have recorded it as of interest, but am unable to give any explanation as to its cause, though believing it to be connected with the syphilitic affection.

A CASE OF INTRACAPSULAR FRACTURE OF FEMUR, WITH TREATMENT AND RESULT.

BY S. R. SKILLERN, M.D.

ON the 21st of August, 1878, while crossing the yard of one of the hotels at Saratoga (at night), Governor R., aged 65 years, fell, the left hip striking upon a conical stone imbedded in the earth with sufficient force to dislodge it.

After the patient was got to bed, the pain was lessened and sleep induced by repeated doses of morphia; and the following day, with the assistance of Dr. Saulsbury, of Delaware, the governor was etherized, and the intracapsular injury diagnosed. On pulling the leg well down and rotating the thigh, crepitus above the trochanter, and apparently within the capsule, was distinctly heard and felt.

In consultation it was decided to convey the governor at once to Philadelphia,—a procedure fraught with not a few difficulties, in consequence of his weight and the numerous changes necessary in his transportation. Arranging the patient upon a cot, and providing a number of pillows, he was etherized and conveyed to the train, and was kept more or less under the influence of ether until we arrived at Philadelphia.

The day following our arrival, and two days after the date of the injury, treatment was begun by etherizing the patient and making a further examination of the parts. Satisfied with the correctness of our original diagnosis, the next question was as to the proper position and apparatus to be employed, Convinced that the age and temperament of my patient would militate against his recovery should he be subjected to the confinement necessary with splints of any kind, I resolved on employing a chair in lieu of bed and splints. The chair selected was what is usually styled an invalid-chair,—the back, seat, and foot-rest made so as to be secured at any angle desired.

Placing the patient comfortably in this chair, and adjusting the fractured surfaces of bone, I found that in order to keep the surfaces in apposition it would be necessary to adopt other means than position. To this end I devised a concave metallic pad, or plate, three by four inches in size, covered with soft leather, provided with slits to hold in position a stout elastic band. The pad was applied over the trochanter, and the band around it and the pelvis drawn moderately tight and buckled. This served so well in keeping the fractured surfaces in apposition that nothing else than comfortable support for the leg was needed, the patient being able to change from a recumbent to a sitting position at will.

In this way the governor submitted cheerfully to treatment, and was at the end of six months able to walk quite as well as he ever did. He has but slight shortening, certainly not more than half an inch, and says that he feels but little discomfort after walking continuously for an hour or more.

With the hope of getting the rare result, *bony union*, in this case, in addition to keeping the fractured surfaces in *close apposition*,—which the pad and band served well to do,—I gave the patient full doses of the hypophosphite of calcium four times a day: how far that assisted in the result may be matter of opinion.

BENZOATE OF SODIUM AS AN ANTIPYRETIC AND ANTISEPTIC.—It can be taken in doses of two to four drachms daily without unpleasant effect, and is reported, on good authority, to have proved highly beneficial in diphtheria, acute rheumatism, erysipelas, and puerperal fever. The testimony regarding its value is sufficient to make it worth a trial. It does not reduce fever so quickly as quinine, but the effect is longer continued.—*Medical Times and Gazette*, vol. i., 1879, p. 597.

NOTES OF HOSPITAL PRACTICE.

HOSPITAL OF THE JEFFERSON MEDICAL COLLEGE.

SERVICE OF DR. J. C. WILSON.

SYPHILITIC LOCOMOTOR ATAXIA.

J. F. C., living in the country, 46 years old, a house-carpenter by occupation, applied two weeks ago for relief from symptoms which he describes as "weakness, and difficulty in walking."

He is a medium-sized but well-developed man, with a good show of muscle. The grasp of his hands is far from being weak, and is equally powerful in both; as you see, he can both flex and extend his leg in spite of my effort to hold it in position. There is no want of power in these muscles. His gait is worthy of your close observation. It is unsteady, swaying; his toes are thrown outwards into the air, and the heels are brought down with an unnatural suddenness. As he walks across the floor his eyes follow each movement of his feet. All these anomalies of gait are exaggerated when he attempts to follow one of the cracks in the flooring. He turns slowly and with caution. With his eyes closed he cannot go at all: indeed, he cannot stand. Observe that, as he places his feet together and closes his eyes, his body sways to and fro, and that in a few seconds he would fall to the floor unless aided. He tells us that it is only with the greatest difficulty and by holding on to tables, the wall, and so on, that he can move about his room in the dark. His feet feel numb, and he cannot tell whether there is carpet or bare floor under them by the sensation. These motor- and sense-troubles are not limited to his lower extremities. He has lost the power of executing movements of precision with his upper extremities. As he reaches out to take this pin up from the table, his arm is extended with a jerk, and it is only after much fumbling that he succeeds. He buttons his vest with difficulty, and with many strange gyrations of his fingers. He complains also of numbness of his fingers. The sense of touch is greatly impaired, so much so that he tells us that he cannot tell whether he has a small object, such as a coin, in his hand or not without looking, nor can he form any estimate of the weight of objects of greater size while holding them in his hand.

At this point in the examination you would like to be informed as to the cause of the peculiar nasal intonation of the patient's voice. Those who are near at hand may look for themselves. There has been a destructive inflammation of the throat. The uvula and the greater part of the soft palate are gone.

It is now nine years since this man had a chancre,—the initial lesion of syphilis. He states that he was treated for that disease, that he has had no eruption, but that a year later while under treatment the throat trouble came on. No other symptoms were discernible till some fifteen or eighteen months ago, when he began to suffer from what he calls "flashes of pain" in his legs and arms. These were followed by the ataxic troubles and the loss of sensation, at first trifling in degree, but slowly growing worse until nine months ago, when he fell while at work on the roof of a house. Since that he has been unable to work. All the symptoms except the lightning-like pains have grown rapidly worse, and he has lost flesh.

The patellar tendon reflex is abolished. You perceive that when I support his thigh and allow the leg to dangle, and my assistant, Dr. Hughes, strikes a quick blow upon the skin over the tendon of the quadriceps femoris below the patella, either with his pencil or the edge of his hand, there is no reflex contraction of that muscle. The absence of the tendon reflex may be looked upon as evidence of degenerative disease of the posterior columns of the spinal cord. There is no spinal tenderness; no sensation of a cord around the body; no impairment of the functions of the rectum or bladder. His eyes have been examined by the gentlemen of the clinic for eye diseases. They report that the eye-ground is normal; memory and mental power are good; fixed headache and vomiting are not symptoms in this case. The difficulty in walking here is not due to weakness, but to an impairment of that function of the cord which controls the harmonious working of the muscles,—the co-ordinating power. It is a case of locomotor ataxia. The history of syphilis is so prominent and the traces of its ravages are so plain that I am disposed to regard the ataxia as of syphilitic origin, and the case as one of syphilis of the nervous system. If this view of the case be correct, the outlook is vastly more favorable than otherwise. By the use of antisyphilitic remedies we will subject it to the therapeutic test.

The patient has taken iodide of potassium in ten-grain doses three times a day during the past fortnight. We will continue the use of this drug, but in increasing doses until we reach thirty grains three times daily.

The characteristic lesion of locomotor ataxia is sclerosis (gray degeneration) of the white posterior columns of the cord, extending to the posterior roots of the spinal nerves. If the ataxia be directly due to syphilis, as the clinical history of the case before you seems to indicate, the nature of the histological changes in the cord is unknown.

It is possible, in view of the frequency of both diseases, that syphilis and sclerosis of the posterior columns may have in our patient an accidental and not a causative association.

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TRANSLATIONS.

A Case of Supposed Tubercular Meningitis cured.—Dr. Foucart (*La France Méd.*, 1879, No. 59) saw a little boy, 5½ years of age, who for six weeks previously had shown a remarkable change of character; he had become capricious, headstrong, and ill-tempered; when crossed, he lay on the ground and refused to rise, or he crouched in a corner without speaking. When seen on February 13 the child had become even more sulky; he would not eat or play; he had been constipated for two days. A purgative improved his general condition decidedly, but only for a time; he became constipated again and sleepless. On examination on February 17 the patient was found lying on his side in bed, pale, with a spiteful expression; the eyes habitually closed; the pupils dilated irregularly and contracting very slightly on the admission of light. He spoke little and hesitatingly; his pulse was 120 to 136, temperature 100.4° F. The child frequently carried his hands to his head, but did not complain of headache; he moaned occasionally; *tâche méningitique;* respiration quiet; lungs sound; constipation, but no vomiting; incontinence of urine. Diagnosis meningitis, probably tubercular. Ordered calomel and jalap, sinapisms to the calves, potassium bromide (gr. xxiv) at night. Later, leeches were applied. The next day the bromide was increased to forty-five grains, with eight grains potassium iodide. The shaven scalp was painted with tincture of iodine. Within the next following days hydrocephalic cries, grinding of the teeth, etc., were observed. Notwithstanding all these symptoms, amelioration began to take place in a few days, and by the end of two months he appeared to be entirely cured. The bromide was continued for three months.

Cause of the Pain in Painful Subcutaneous Angioma.—At a meeting of the Société de Chirurgie (*La France Méd.*, No. 60, 1879), M. Trélat gave some account of a woman of 52, who came under his care with a tumor of the posterior region of the elbow, of two years' duration, following a fall. The diagnosis was made of painful subcutaneous angioma. The tumor looked like a lipoma, with a distinctly circumscribed bluish discoloration of the skin; it was very painful. An operation for the removal of the tumor was followed by perfect relief. The cause of the pain was found to be in the presence of a number of nervous filaments in the tumor. M. Trélat remarks that pain is not characteristic of any particular variety of tumor; even lipomata are occasionally painful.

Generalized Xanthelasma with Icterus and Hypertrophy of the Liver.—M. Ernest Chambard communicated the following case to the Société Clinique (*La France Méd.*, 1879, No. 60; see also Nos. 1 and 2). The patient, who had suffered with jaundice, and whose case had previously been reported, died. The post-mortem examination showed patches of disease not only about the eyelids, but also in the larynx, trachea, and bronchi. The other organs showed no signs of this disease, but there were hydatid cysts in various localities, and particularly in the liver, which was much enlarged. [The case is apparently reported in part to show the connection between the disease of the liver and the xanthelasma. This does not seem to be made out; but the occurrence of xanthelasmic patches in the air-passages is of great interest, and militates against the view that xanthelasma is a merely local cutaneous affection.—Ed.]

Cold and Warm Baths: their Influence on Cutaneous Sensibility.—Stolnikow (*Cbl. f. Chir.*, 1879, No. 32; from

S. Petersb. Med. Wochens.) examined into the tactile sensibility, sensation of temperature, muscular, electrical, and pain sensitiveness, as influenced by ten- to twenty-minute baths at temperatures of 31° to 33° R. (70° to 74° F.) and 16° to 19° R. (38° to 43° F.). He found that tactile sensibility was rendered more acute by warm baths and dulled by cold baths. A similar result was obtained with regard to painful and electro-muscular sensation. Sensibility to temperature was dulled by warm baths, but was rendered very acute by cold baths. Muscular and electro-muscular sensibility were the same. To explain these results, Stolnikow brings forward the thermo-electric theory, which depends upon the development of electric streams between different warm bodies. These effects he believes to be due to the molecular changes of the nerves, which accompany the physiological conditions wrought by the baths.

EARLY ANTISEPTIC TREATMENT OF BUBOES.—Wagner (*Cbl. f. Chir.*, 1879, No. 34; from *Breslauer Aerzl. Zeitschr.*) recommends, as the result of his experiments, the early opening of buboes, with careful observance of Lister's antiseptic method, provided the diagnosis is clearly made out of an actual inflammation, not merely of the enlargement of the glands. Wagner not only recommends all buboes to be taken out which are suppurating, but even those which are much swollen. The result is extraordinarily satisfactory.

VASO-MOTOR DISTURBANCES IN AN HYSTERICAL PATIENT—ERYTHEMA DEVELOPED UNDER THE INFLUENCE OF THE LEAST CONTACT AND LIMITED TO THE POINTS TOUCHED.—At a recent meeting of the Société des Hôpitaux (*Bull. Gén. de Thérap.*, v. ii., 1879, p. 92), Dr. Dujardin-Beaumetz presented a woman 28 years of age, and showing very marked hysterical symptoms, such as generalized anæsthesia in all parts of the skin, together with cataleptic phenomena. This woman displayed curious marks upon the skin, like urticaria, wherever this had been touched or scratched, these marks persisting several hours, and permitting an autograph to be written upon the skin with the finger-nail. [Such phenomena can always be brought about in patients suffering from urticaria. —ED.]

ANTIQUITY OF SYPHILIS.—Dr. Mauriac says (*Le Mouvement Méd.*, 1879, p. 326) blennorrhagia has existed at all periods; it seems as old as the world, and is inherent in humanity. The soft chancre is likewise ancient; it was known in antiquity among the Greeks and Romans. As to syphilis, there are doubts as to its antiquity. It has probably prevailed from the remotest periods in the extreme East. At the epoch of the Renaissance it fell with extreme severity on the European nations. To-day it flourishes the world over.

MODIFICATIONS OF THE EPITHELIAL LAYERS OF THE SKIN IN HEMORRHAGIC VARIOLA.—At a recent meeting of the Société des Hôpitaux (*La France Méd.*, July 16, 1879), M. Cornil said, It is known that in the ordinary pustule of variola a special alteration of the epidermic cells is observed. These cells are swollen, modified; sometimes the cavities constituted by the cells thus altered communicate with each other to form spaces of greater or less size, the walls of which are nothing more than the envelope of the cell itself. In these spaces more or less numerous leucocytes are found. In variola hæmorrhagica, however, the cells of the rete also present the same condition, only they are filled with red globules and with granulations. A very fine network, formed by the fibrinous fibrillæ, may also be observed. This effusion of blood into the rete takes place very rapidly. There is necessarily some alteration of the vessels. About this, however, little is known. M. Cornil has simply observed the following facts. The vessels situated in the neighborhood of the hemorrhagic pustule are not ruptured at any point, but the endothelial cells are very much swollen; they diminish considerably the calibre of the vessel itself, and offer the aspect of a stellate fissure, owing to the disposition of the swollen endothelial cellules. In the centre of this fissure a great number of blood-globules can be seen. Even with our knowledge of these vascular alterations, it is difficult to explain the mode in which the red globules escape from their natural canal and appear in the pustule of variola hæmorrhagica.

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PERFUMED IODOFORM.—Shake tincture of iodine with a fragment of potassa fusa until the color is removed. The odor of the iodoform thus produced is covered by the addition of cologne or lavender water. Lint dipped in this solution, and afterwards dried, is a pleasant and efficient application to indolent sores.—*London Medical Record.*

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, OCTOBER 11, 1879.

EDITORIAL.

CARE OF THE INSANE.

AMONG the indications of confidence in our institutions for the care of the insane, two especially have met our notice the present season. Dr. Given, whose excellent establishment at Kellyville is well known, no doubt, to all of our readers, has found it necessary to add another building to his house, whereby he is able to accommodate more patients and increase the comfort and convenience of all. If a private asylum is desired, one could scarcely be found where more is done to promote the welfare of the patient than in this. Its grounds are tastefully laid out, and the site commands an extensive and beautiful view. We are glad also to see that at the Pennsylvania Hospital for the Insane another ward is now building, not so much for the purpose of receiving more patients as for furnishing more room for the present number.

These enlargements indicate, we think, not merely that increase in the amount of insanity which comes from the increase of our population, but a high appreciation, in public opinion, of our establishments for the care of the insane. And this sentiment is not confined to our immediate neighborhood, for a large proportion of the cases are from a distance.

CORRESPONDENCE.

LONDON LETTER.

PERHAPS some account of the rural general practitioners of England may interest your readers; and, as I have been among them lately in various parts, the subject has attracted my attention, all the more that I started life as a general practitioner myself. Probably some reader will ask, What is a general practitioner? Well, a general practitioner is a doctor who does everything and anything that he gets the chance of. He has his regular round, then is called off to a broken leg, comes home and draws a tooth, then makes up his medicines, and in the evening drops in upon some friendly patient, and finally goes to bed in the comfortable assurance that he will be called up to attend a case of midwifery a few miles off before his ordinary hour of rising in the morning. He has got to know something of every malady which flesh is heir to. Not unfrequently this necessity for a knowledge of everything produces a feeling of despair, and he never tries to know anything beyond the thin veneering of knowledge requisite to procure a diploma. The young man whose ambition it is to commence life on the smallest possible intellectual capital aims at general practice, and trusts to get along on one of two lines. He either starts in a place where there is no one else, secures the Union appointment (to attend the paupers),—which fixes him pretty securely, unless he puts his foot in it tremendously in some way or other,—and then gets the club of Foresters or Odd-Fellows, who must stick to him as there is no one else, and then his private patients must make the best of him. This type of general practitioners furnishes some of the most heartless scoundrels unhanged, who disgrace their profession first and common humanity afterwards; it also furnishes those horrible cases of mismanaged midwifery which give society such a terrible shock every now and again, and which result in a little gentle exercise on the treadmill for the delinquent as a warning to others of the same kidney. Or, if more astute and intelligently selfish and with a better acquaintance with the weaknesses of humanity, he studies "practical psychology," and goes in for a pleasing manner, starts in a town, makes himself agreeable, and calls in a consultant the moment the thermometer registers a temperature of 102° Fahrenheit or any other emergency arises. This kind of man does little harm positively, and indeed is only positively mischievous in preventing patients with chronic diseases going to some one else who knows a little on the subject. On the other hand, there are general practitioners who can handle a knife and a stethoscope or a pair of midwifery forceps equally well,—clear-sighted, shrewd, given to reading; indeed, the most thorough practitioners and the safest guides in disease that we possess. Such men are a perfect godsend to the district in which they happen to become located.

The readers of George Eliot's inimitable novels are familiar with the two classes of general practitioners found in provincial towns. There is the small, dyspeptic man, who persists in keeping his patients on a slop dietary and the "lowering treatment," who is great at tea-parties, and is in much favor with the women-folk; and there is the stalwart, rather boisterous man, who drinks a little too much himself, and prescribes stimulants, and is in favor with the men-folks, and who, of course, is the man approved of by the farming class, and is found in "those snug farmhouses where the mice are sleek and the mistress sickly." The farmers like him; he knows something about farming, can give an opinion on the points of a prize heifer or the right manure for a certain field for a certain crop, and is not to be done in a bit of horse-trading. The dyspeptic man knows nothing on these subjects, and does not take with farmers; he drives a quiet nag, having tried horseback-exercise till he has broken the knees of a variety of different steeds, dropped a bit of money over horse-flesh, and learned wisdom from experience. It is a curious fact that no doctor will take with farmers who is unskilful in the saddle and breaks his horses' knees; whereas the man who sits straight and rides well always takes, and that too in other than hunting districts. On the other hand, the quiet little dyspeptic takes with the better class of tradesfolks, the serious people, and those who consider themselves "refined" and who speak systematically of the rollicking doctor as "coarse." On the whole, they stand pretty equal, as things go.

Of course there are intermediate types in plenty, and the man in a small town differs from the man who is alone in some village. The town man, if successful, is somebody; he is on good terms with the gentry and clergy, and even has some prospect of one day being made a magistrate,—a dignity to which a number attain. The man in the village holds a lower social status; he is at everybody's beck and call; he is patronized, or more often bullied, by the clergyman, especially if the parson is a "swell;" and his existence is embittered by the pertinacious impertinence of the relieving-officer, unless he enter into a league with that worthy, in which case the paupers are apt to have a bad time of it. But, however irksome the doctor's life, it is comparative paradise to that of his wife. A doctor's wife in the country is a woman for whom I am deeply sorry; and how country doctors ever manage to get wives is a deep mystery to me. Of course it goes without saying that the clergyman's wife does not treat her as an equal, while the resident squire's wife knows her distantly. She may be invited to lunch at the squire's on some particular event, but at no other time does she cross his threshold; though her husband may be invited to dinner now and again, when some local event necessitates a dinner-party. The doctor's wife may be allowed to take a part in the Sunday-school teaching if she chooses to be patronized by the rector's wife. The poor woman is isolated socially, unless there be a retired tradesman in the neighborhood, or a well-to-do farmer or two. To be sure, the smaller farming folk like to see the doctor's wife and have a chat with her while her husband is inside seeing the patient. If she knows anything about butter, or has any information of a practical character to give on the subject of the rearing and management of babies, she can do much to increase her husband's reputation. Here and there, moreover, there is a doctor's wife who can do much to further her husband's interests, especially if she have some money of her own. In several instances I have known the doctor's wife really to have made and kept together the practice. She visits a good deal, talks well, and listens well; never misses the opportunity to give her husband a boost, and skilfully explains away anything which may not redound to his credit. In fact, she protects him wonderfully from the abuse which otherwise might be showered upon him, and stops any scandal that would otherwise be circulated; and where a doctor has not such a wife lies are told about him to a very injurious extent. Of course a country doctor must be married; there is not the ghost of a chance of his succeeding without a wife; the clergyman's wife could not possibly be attended by a doctor who was single. Indeed, to my mind, ladies must have very little confidence in their own virtue when they make such a fuss as they do about unmarried doctors; sometimes the outcry is scarcely decent. So the poor man has got to have a wife; and some innocent, trusting maiden gives herself up to a life which at the best has very little in it that is attractive; and if she prove a fertile vine, and the progeny get ahead of the income, then the life of a toad under a harrow is bliss compared to her existence. In the United States of America a doctor holds at least a respectable social status; in this country, with few exceptions, his position is anomalous, and his wife is a social pariah.

Still, country doctors are very useful men in many ways. Unfortunately, the temptation to drink is great,—much greater than many can resist. The farmer's wife presses him to take a drop of gin-and-milk that she may have a few more words with him about the servant, whom she seriously suspects of being "in the family-way;" the inn-keeper's wife expects him to have a glass "for the good of the house," or to treat the farmers and the miller who are drinking inside; and the doctor knows very well that next to the clergyman's wife the inn-keeper's wife can do him the most good—or harm, as the case may be. Then very often he drops into the inn in an evening to see some one of his patients that he cannot very well invite to his house to meet his wife; the reasons for which may be various. Or if there are a lot of noisy children at home he may be glad to spend his evenings away. Of old, the squire and the parson were glad to make friends of the doctor and strive to keep him from temptation; but now with railways and telegraphs they can so readily communicate with the leading practitioners of the neighboring towns that they neglect the village doctor; and he may take to drinking, or otherwise go to the devil in any way he pleases, for anything they care. It is needless to say that under such circumstances the village doctor does not stay after he has thoroughly satisfied or dissatisfied himself about the locality, but leaves the place and takes his chance somewhere else. If he is married and has no money, he is compelled to stay where he is, however miserable he may be, and revenges himself by forgetting what little he ever knew,—and often that feat presents no great difficulties. He has not a single good word for the place, and the people have some pretty black stories about him. If he is a man of rural tastes, fond of his fishing-rod, or even of his gun, he has a better chance of turning out well than a man who hankers after the theatre or the billiard-room. But, in justice to the present generation of country doctors, it must be said that "taking to drinking"—that is, being seen intoxicated or drinking at taverns—is becoming less frequent than has been the case. The young doctor now is too much of the gentleman to do the open drinking which used to obtain. In this he partakes of the general improvement in the habits of the better classes. In George the Fourth's time it was fashionable to drink deeply; now it is not only not fashionable, but society has placed its ban upon drinking habits. It is not usual now to hunt for the country doctor at the public-house, where he was commonly to be found of yore.

Some reader may think I have been severe on the country practitioner and exposed him rather unmercifully; but it has not been my design to do so. He is described truthfully as he has been found. There are good and bad in all professions, trades, and occupations. The hardworking, painstaking man rarely fails to get on in any position in life, but where a doctor is planted in a village his prospects are not very brilliant. However hard he may work, if he has a family it is next to impossible for him to save anything; and if he die while his children are young, it is not pleasant to think of the straits to which his widow and children may be reduced. If he is sufficiently enterprising, he moves to the nearest town, carrying a sufficiency of his old practice with him to keep his head above water till other practice comes in. Once in a town where there are not more than half a dozen other practitioners, a man can make his way. As the old men drop off, he comes in for a portion of their better-class patients. Then, as his practice increases, he cuts off the less profitable patients, "weeds his practice," as it is termed, by raising his scale of charges, so that the poorer portion have to call in some one else, and by dropping those who do not settle their accounts. In this way he makes so much more money by the same expenditure of time and labor. Then, too, other men call him in consultation, and by this means a handsome addition, in time, is made to his income. As age comes on or his success is very marked, he has a qualified assistant, who does a great deal of the less important work, takes the night-work off his hands, and does the midwifery. Even if the patients do not quite fancy the assistant, they put up with him ordinarily, so that they can call in the old doctor when there is anything serious. It is not common for a doctor to retire altogether from practice, unless he removes, as he not rarely does, to some place where there are great educational advantages for his children, or to some health-resort for the sake of his wife or self. But it is not often a doctor can afford to retire, except in the manufacturing or mining districts.

In the smaller provincial towns, ranging from seven thousand to twenty thousand inhabitants, there are very commonly two men who divide the consultation practice of the neighborhood; and these two doctors usually are very different personages. The man who takes with one class of persons is distasteful to the other section of society. One usually is a bluff, out-spoken, rough-and-ready man, of keen observation as to character as well as disease. His opinion all round is good, and his judgment sound, and his opinion inspires confidence, even though his study of his profession is not extensive and he reads little. The other man has a precise manner, rather stiff, talks seriously, reads hard, and is up with the latest details of therapeutics. He is to be found trying the last new remedy or the most recent new preparation. When patients come down from London, taking some new remedy prescribed by a fashionable physician, they are somewhat taken aback to find him prescribing the very thing to some old patient who has never been twenty miles away from the place. He scores then. The other man is proudly ignorant of the most recent new drug, but he wields the old ones with practised skill. Each is strong in his line. The rough man is infinitely surer as to the prognosis in times of acute danger; the well-read man is very often more accurate in treatment, and can fall back on reserves of knowledge, in the way of treating troublesome cases, that are very "fetching." The rough-and-ready man is rarely seen in church; the proper man is intensely respectable, is an ally of the parson's, and not rarely is the vicar's churchwarden.

The other day I came across something quite new in my experience. I was staying with a doctor-patient in Staffordshire, who has an extensive practice. He is the head of a firm of three, who work the thing very cleverly. One is always at home, looking after "the surgery,"—as the business part of a country doctor's house is designated. He is on the spot, to all the club and other patients, to make up the medicines, attend accidents, etc., etc. The drives are often very extensive, extending far up the hills which constitute the southern spurs of the backbone of England. A drive of forty miles is not at all uncommon, consequently any sudden call, in busy times, must be worked into the round; a special journey could not possibly be devoted to one patient. So the messenger is detained, and the doctor, when he starts, pitches a bag into his trap containing one or more carrier-pigeons. After seeing the patient, the prescription is attached to the pigeon, which is tossed up and is at home in a few minutes. The medicine is made up and the messenger despatched without delay, and so many hours are saved, to say nothing of the messenger getting home by daylight on short winter days, instead of plodding home in the dark among those stormy hills. Such use of the "homing-" or "carrier-pigeon" deserves to obtain more commonly than it does, for it certainly has much to be said for it.

Some further details about country doctors and that strange product now fast disappearing, viz., the unqualified assistant, may be discussed some other time, unless the editor thinks this kind of letter scarcely "the thing" for a scientific periodical.

J. MILNER FOTHERGILL.

BOSTON LETTER.

MR. EDITOR,—The recent *esclandre* in connection with the administration of the duties of the coroner of Philadelphia recalls the manner in which certain of the multitude of coroners who, until within two years, brought constant disgrace upon the city of Boston, took advantage of the unfettered freedom afforded them by law. But at that time Boston was more at the mercy of coroners than any other city in the country, for while in Philadelphia, for example, the principal coroner was a physician, in this city he might be a shoemaker, milkman, lawyer, shopkeeper, anything, so long as he had sufficient influence with fifth-class politicians to secure an appointment to the much-desired office. Moreover, while London, with her immense population, had but four coroners, New York four, New Orleans, Brooklyn, Philadelphia, and Chicago two each, San Francisco, Baltimore, Cincinnati, and Washington one each, Boston was blessed with *forty-three*, and of such quality as could be compensated for by no quantity whatever. Of these the larger fraction were *called* doctors, many of whom were irregulars and quacks. Among them was a small proportion of regular physicians. Another share claimed no medical title of any ilk: anybody could be a coroner. Certainly, Boston, systematic and precise as she is, could hardly be congratulated. Do not surmise, however, that the intelligent physicians and lawyers of the city were satisfied with this condition of things. Protests and indignation were common enough, but everybody's hands were tied by the monstrous and archaic condition of the coroner laws. Under this shameful system, except in striking cases, post-mortem examinations were rare, and competition among such a horde of coroners, together with the struggle to manufacture cases, gave rise to very grave abuses. The scamps among the coroners naturally held the trump cards, the decent men rarely securing any cases. During the past fifteen years, therefore, most of the business was done by three or four men, who had the ear of the police. Among the rest there was always a great deal of scrambling, though they accomplished but little. The jury element, likewise, was a blot upon our good name. It was always imperfect. Half a dozen men would be picked up on the street, just as it happened. Court Square teemed with candidates, and they represented an ignorant or unscrupulous class of men. In short, the whole system was a scandalous disgrace. The temptations to protect or create criminals, shield the guilty, and becloud the innocent, were many, and will suggest themselves. Among the more active of the coroners were two men who succeeded in making themselves uncomfortably notorious. One of them concluded to leave the scene of his festivities for some locality less familiar with his peculiarities. The other tried the game of bluff. He was surprised by the discovery that Boston knew more about that amusement than he. Much as Tony Weller served the reverend friend of his late wife, was this Newton served by the State Legislature. But I am anticipating.

At intervals during the previous twelve years the coroner system was discussed in the pages of our *Medical Journal*. In the fall of 1875 its dry and mouldy bones began to be severely shaken. The appointment of Dr. (?) Newton as coroner, and the celebrated Clara Fisher case, were especially influential in creating the change for which our medical men had so long devoutly wished. The appointment of a man so singularly inefficient as was this Newton led certain of the most distinguished physicians of Boston to petition the governor for his removal, and the *Boston Medical and Surgical Journal* gave him such a blistering editorial that the man sued the publishers for $20,000, and was hoist by his own petard. As you will notice, his name (A. W. K. Newton) stands in Butler's Directory of the Surgeons and Physicians of the United States. Though written by himself, the particulars therein set down are wholly untrue, and the defendants were provided with all the necessary proofs to that effect, and even held the misspelled original of the announcement in the directory. But Newton backed down in such inglorious haste that the documents were not brought before the court.

Meanwhile, Mr. Theodore H. Tyndale, a lawyer, and now a most efficient member of our Medico-Legal Society, read before the American Social Science Association a paper showing that the coroner system then in force was an anachronism, and a very dangerous one.

He showed that, by existing laws, a coroner, though appointed by the governor and council, could be displaced only by an address of both Houses of the Legislature to the governor; that if six jurors who were summoned did not respond, the coroner could form a jury from the bystanders, and therefore could influence and manipulate them as he chose; that by the consent of the majority of this jury he could make a private inquest, and that, while giving bonds for only $500, he could take charge of all the property upon or near the person of the deceased. It may be said, however, that coroners could not easily hoodwink the authorities by an independent disposition of the body (for dissecting purposes, for example) and defraud the city by manufacturing charges for pretended expenses. This was in a great measure prevented by the vigilance of the overseers of the poor.

Mr. Tyndale further showed that there was no law limiting the number of coroners, and finally how a timid or corrupt coroner could shield a criminal, thus endangering public safety, and how by malice or vindictiveness he could work much harm. He asserted that two coroners were enough for the city of Boston, that juries were mere dummies, and claimed that the office of coroner should be divided into two,—one medical, the other legal. He also produced figures which demonstrated that, in one year, inquests under the old system cost the city $10,769.74. The salaries of the two medical examiners now acting for the whole of Suffolk County amount to only $6000.

This exposition created a deep impression. The Social Science Association at once gave the matter earnest heed, but the first formal step was taken by the councillors of the Massachusetts Medical Society, who at their October meeting in 1876 thoroughly discussed the subject, and appointed a committee which was requested to report at the February meeting in 1877. Here then at the same time were several influences working together, viz., Tyndale's paper, the consequent activity of the Social Science Association, the practical step taken by the Massachusetts Medical Society, and the disgraceful appointment of Newton as coroner. The councillors of the Medical Society next appointed a committee of five, and invested it with full powers to treat and co-operate with committees of other organizations, and with any persons interested in reforming the coroner laws. A bill was then presented to the State Legislature, which placed it in the hands of a special committee. The petition for the extinguishment of Newton was likewise being pushed, and added much influence to the forces at work in favor of abolishing the whole corrupt system.

As you may imagine, heaven and earth were moved by the friends of the coroners in opposition to the movement. This adverse influence weakening, an attempt was made to secure the appointment of more than two medical examiners. One of the coroners was notoriously active. He defended the old system, and then calmly applied for a position under the new. The bill went through the Legislature in triumph. It killed the old system. The satisfaction of lawyers, physicians, and all well-disposed persons was great.

Meanwhile, Coroner Newton had played another card. He sent in his resignation. The governor and his council very properly refused to act upon it until the evidence of Newton's remarkable unfitness was made public. In this course they were upheld by the Legislature in a motion which most emphatically indicated the fact that in Massachusetts a public servant cannot escape the results of misconduct by a resignation. In June the man was dishonorably discharged by the governor. One month later the coroner system, with its disgraces, its peculations, its antiquity, was expunged from Massachusetts. It was replaced by the new plan,—a plan now working with the most thorough success. I can best show its character by giving you the new law concerning medical examiners. Its first section was the bullet which killed the deadly parasite of the past:

1. "The offices of coroner and special coroner are hereby abolished."

Stripped of verbiage unnecessary here, the remainder of the law is as follows:

2. The governor and council may appoint two medical examiners for Suffolk County, and for each other county such number as may be designated by the county commissioners. These men to be "able and discreet men, learned in the science of medicine."

3. The annual salary of each medical examiner in Suffolk to be $3000; in other counties $4 for a view without a necropsy; for view and autopsy, $30; for travel, five cents per mile to and fro.

4. The medical examiners to hold their offices for a period of seven years, but may be removed by governor and council for cause shown.

5. Before entering office, medical examiners to be sworn and give bonds for $5000 for faithful performance of duties. Failure to do this within thirty days of appointment displaces, and another man is chosen.

6. County commissioners are directed to

divide their counties into districts suitable for one medical examiner, but each examiner may, if need be, act in any portion of his county.

7. Medical examiners are to make examination of such bodies only as are supposed to have died by violence.

8. Upon notification, the examiner must take charge of a body; if, on view, he consider further examination necessary, he must obtain authority from the district attorney, mayor, or selectmen of the district, and then, in presence of two or more persons (whose attendance may be compelled), make an autopsy, and reduce to writing every fact which may show condition of the body and manner or cause of death; likewise names of witnesses. Before making the autopsy he must call attention of witnesses to position and appearance of body.

9. If he decide that death was caused by violence, he shall at once notify the legal authorities of the district, file a copy of his record of the necropsy in a court or with a trial justice, and another with the district attorney; also notify clerk or registrar of marriages, births, and deaths of whatever may serve to identify the dead.

10. The court or justice must then hold an inquest, which may be private. Witnesses may be isolated; district attorney or his deputy may attend and examine witnesses. The same holds good in case of death by railroad accident or other casualty.

11. Legal authorities may compel attendance of witnesses; the latter to be allowed the same fees and be subject to same penalties as when served by a subpœna to attend a criminal prosecution.

12. After hearing the testimony, the presiding justice shall draw up a report, in which he shall find and certify when and how the person came to his death, with all details. If the death have been caused by some other person, the name of said person must be mentioned in the report and filed with the records of the superior court of the county in question.

13. If murder, manslaughter, or assault have been committed, the justice may bind over all necessary witnesses to appear at proper time and place.

14. If the person charged with the offence be at large, the justice shall take steps to apprehend him by the usual legal process.

15. If the medical examiner report that death was not caused by violence, and the district attorney be of contrary opinion, the latter, or the attorney-general, may cause an inquest to be holden, at which he or a deputy shall be present and examine witnesses.

16. If necessary, the medical examiner may call a chemist to his aid, the latter to be paid by the county.

17. When the examiner views or examines the body of a stranger, he shall bury the same at the expense of the county wherein it is found.

18. The medical examiner may allow reasonable compensation for services rendered by others in securing bodies found in the waters of the commonwealth, but nothing shall be paid for the search for a body.

19. The medical examiner is authorized to take charge of property found upon or near a body, and shall deliver the same to proper custodians, or in their absence, *after sixty days*, to a public administrator.

20. Any examiner who shall fraudulently refuse or neglect to deliver such property within three days after demand, shall be punished by imprisonment not exceeding two years, or by fine not exceeding $500.

21. The medical examiner shall return account of all expenses of each view or autopsy, including his fees, to the county commissioners of the county wherein examination is made, and shall annex the written authority under which the autopsy was made. Said commissioners (in Boston the auditor) shall audit such accounts and certify to the treasurer of the commonwealth, or county, as the case may be, what items therein are deemed just and reasonable, which shall be paid by said treasurer to the person entitled to receive the same.

Sections 22 and 25 do not require mention.

Such being the law, it will at once be seen that law and medicine act together in deciding questions connected with a death by violence. Under the old system the inefficient coroner and his triply ignorant jury represented both law and medicine. Quoting in part from Mr. Tyndale's paper, read last year before the Medico-Legal Society, "Under the new system the medical examiner's share of the case terminates with his report. He may become a witness, but he has nothing further to investigate or decide. This is the business of the courts, and the medical examiner is not expected to take the responsibility of deciding the legal merits of the case. This is the business of the judge, and his alone. Thus, the examination is made by the examiner, the inquest by the court. The duties of each are distinct, and this arrangement insures even-handed justice."

The real effect of the law is a medico-legal co-operation. This is what we have needed. Formerly, in coroner cases, we had neither law nor medicine: we had only an arbitrary, generally incapable, coroner. Now we have exact and scientific medical autopsies, followed by equally exact inquests in the courts. There should be no coroner in any well-regulated city. We have known, and Philadelphia now sees, the imperfection, danger, and temptations of such an office. If Pennsylvania will but adopt our law, she also will then shake off an antiquated, absurd, unintelligent system. If she can modify any portion of our law, and thus give it greater perfection, we shall be glad to adopt her modifications. Not to pass and enforce such a law after our successful trial of it, and after the disgraceful wrangle for the coroner's office which Philadelphia continually witnesses, together with the peculiar administration of his office which has been revealed in the case of your present coroner,—with all this in view, can Pennsylvania permit a continuation of the coroner system? To put such power into anv man's hands is wrong. To permit such an office to become the object of political warfare is wrong. To admit to such a position men so inefficient, so uneducated, as the more recent, at least, of Philadelphia coroners have been, is a wrong and a mistake so striking, so singular, so surprising, that one wonders how and why it has been allowed to continue. But in this country we move against wrong far too slowly. When will Philadelphia again have such an opportunity to make the change? You have, all gathered and garnered, sufficient evidence, fresh and recent in character, as to why the change should be made.

Our law so hedges in the medical examiner that he can simply do his duty. Section 19 suggests the only temptation to which our examiners are exposed. But remember that these men are not the choice of Irish politicians. They are carefully selected by wisely-chosen men, who then recommend them to the governor and council for appointment. Thus, they run a gauntlet of sober-minded and intelligent men. They must, then, be men not only of first-rate ability, but men of solid, well-tried character. And such are the men who are now acting as medical examiners for this commonwealth. This is shown by the faithfulness with which thus far they have performed their duties, by the accurate and scientific nature of their reports, and by the scholarly papers which they have read before their society. Reference to this society (the Medico-Legal) must be reserved for another letter. In closing, I cannot forbear expressing the hope that this hasty sketch of the way in which we threw off and got rid of the burdensome disgrace which afflicted us so many years may not be without its influence upon the physicians and lawyers of Pennsylvania. Get rid of the old and imperfect coroner system, and adopt the scientific medico-legal combination which is so gratifying in our State. Therein alone lie self-respect and safety.

H. O.

BOSTON, October 1, 1879.

LITHOTRITY AT A SINGLE SITTING.—Sir Henry Thompson publishes in the *British Medical Journal* for August 2 a report of thirteen cases of lithotrity at a single sitting recently performed by him. In the last case, that of a man aged 78, the stone, weighing upwards of an ounce, was removed at two sittings. The whole series of cases was successful, and the mortality *nil*.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting held at the hall of the College of Physicians, Philadelphia, June 25, 1879, Dr. Henry H. Smith, President of the Society, in the chair, Dr. Chas. B. Nancrede presented the following:

OBSERVATIONS UPON THE PATHOLOGY OF LUXATIONS OF THE HUMERUS AT THE SHOULDER-JOINT, AND THEIR TREATMENT.

A few points in the anatomy of this joint must first be briefly adverted to, which, although perhaps well known to some, certainly seem to have been overlooked by the majority of surgeons.

An attentive consideration of the nature and extent of the movements of the shoulder-joint will demonstrate the fact that its ligaments cannot by any possibility keep the component bones in close contact, as this arrangement would inevitably interfere with the free play of the articulation. In the dissected specimen, indeed, the humeral head drops away from the glenoid fossa, so as to leave a considerable interval between them. The muscles which arise and are inserted in the neighborhood of the joint, viz., the deltoid, supra- and infra-spinatus, subscapular, the scapular head of the triceps, and above all the long head of the biceps, keep the joint surfaces in contact,—aided by atmospheric pressure,—and not the ligaments. If the dissected joint be examined, abduction will be found to be arrested by the greater tuberosity of the humerus impinging against the under surface of the acromion process of the scapula. Any elevation of the arm above the horizontal is due largely, as Morris has pointed out, to the action of the trapezius. The fibres of this muscle pursue the same course as those of the deltoid, so that, functionally considered, they may be viewed as one muscle, having the spine of the scapula and the clavicle interposed.

Still another important point to be remembered is the attachment of the deltoid muscle, about the middle of the outer portion of the shaft of the humerus. The ordinary statement found in works treating of luxations is that this joint is so frequently displaced because its socket is so shallow, and the force is so applied as to cause the head of the humerus to impinge against the weakest portion of the capsule. If by "the weakest portion of the capsule" is meant the part least supported by muscles, the statement may be correct; but the examination of comparatively few specimens will prove what *a priori* we ought to have inferred from the freedom of movement, viz., that no one portion of the capsule is invariably stronger than another, since the purpose of the constant thickening of any segment of such a ligament is to limit certain movements.

The reasons assigned for this liability to displacement are in the main incorrect, as will be presently shown.

It may be stated as an axiom, that when the long axis of the head of the bone in any enarthrodial joint coincides with the centre of the socket, it is perfectly secure against luxation. What prevents a man from displacing the head of his humerus when striking an adversary, where force is applied at the distal end of the extremity in a manner not unlike that which occurs when a luxation takes place? Let us examine the mechanism of what is called "striking out from the shoulder." When the arm is drawn back preparatory to the blow, the scapula is carried towards the spine, and is enabled by the motion taking place at the acromio-clavicular joint to present its glenoid fossa forward, thus providing a firm bearing for the head of the humerus upon the centre of the socket. As the blow is delivered, the angle formed by the clavicle and scapula is rendered more acute, so that when the arm is fully extended, the side of the body being at the same time advanced, the centre of the glenoid fossa coincides with the long axis of the humerus. The proof of the necessity for this exact adaptation is seen when a man actually luxates his humerus when unskilfully striking a blow, as has been recorded in one instance.

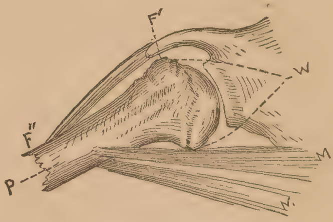
Malgaigne asserts that muscular contraction cannot be much concerned in producing luxations, since a bone can be as readily displaced in the cadaver as in the living subject. The case quoted of luxation from striking a blow refutes this statement, as well as the impossibility of determining how much or how little force is exerted in producing displacement during life.

Displacements of the scapulo-humeral articulation occur chiefly in two ways, viz., from direct force, *i.e.*, a fall upon the shoulder; and from indirect force, *i.e.*, a fall upon the elbow or hand when abducted, or at least partially abducted, as well as flexed or extended.

The mechanism in the first case is as follows. All are personally familiar with the fact that, in falling, a sudden spasmodic contraction of the muscles of the part which is about to strike the ground takes place, which is nature's effort to prevent injury. Thus the arms, in falling prone, are stretched out and made rigid to protect the head, etc. The effect of this contraction, when luxation is from direct force, is to draw the scapula towards the spine, whereby the glenoid fossa is compelled to face obliquely forward and outward; so that when the shoulder strikes the ground, instead of the glenoid cavity presenting its surface at right angles to the long axis of the head of the humerus, an inclined plane is formed, along which the head of the bone glides, aided by the spasmodically contracted abductors, with an impetus that no ligament can resist, landing the bone in some portion of the axilla, varying somewhat with the direction of the force, and which muscles remain, in fact, to draw the bone into its new position. In the luxation upon the dorsum of the scapula, owing to the direction of the force, and the inability of the scapular head (glenoid fossa) to assume its normal position in time, the head of the bone is forced along an inclined plane in the reverse direction to that pursued in a displacement forward.

When indirect force displaces the bone, it acts still more advantageously, viz., there is a double lever action, which can be best understood by a reference to the diagram.

The spasmodic contraction of the muscles fixes the scapula, so that when the arm reaches its limit of abduction* the impingement of the greater tuberosity of the humerus against the under surface of the acromion process fairly forces the bone out of its socket. Thus, the point of contact of the tuberosity and the acromion is the fulcrum F′, by means of which P, the power, or blow applied to the arm, is enabled to move W, the resistance, viz., it ruptures the capsule; this is a lever of the first kind.



But the contraction of the deltoid provides a second fulcrum, F′′, at its point of attachment to the humerus, which enables MM—the pectoralis major, latissimus dorsi, and teres major muscles†—to overcome the resistance, W, or, in other words, to rupture the capsular ligament and drag the bone out of place; this is a lever of the third kind.

With such enormous mechanical advantages for displacement, no depth of socket or strength of ligaments could avail much.

In brief, this seems to be the correct explanation of the apparent ease with which the scapulo-humeral joint is displaced, although some points have been omitted which, in a minor degree, aid in its luxation. Sufficient, however, has been said to render the matter clear, it is hoped, and to show that it is not such a simple mechanical problem as it is usually thought to be.

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* Combined with either extension or flexion of the humerus.

† Probably the infra-spinatus and teres minor aid.

Discussion.

The President, in opening the discussion, said that he believed that sufficient importance had not been attached to the action of the supra- and infra-spinatus muscles in studying the pathology of luxations. He referred to the experiments of Sir Astley Cooper, in which all the muscles of the shoulder-joint except the supra-spinatus were removed, and the head of the bone still remained in its socket. The method of reduction of luxations of the shoulder-joint by manipulation is dependent upon a knowledge of the action of these scapular muscles.

Dr. O. H. Allis said that, in his experiments upon the cadaver, he had not been able to produce luxations of the shoulder as readily as he could of the hip-joint. As the capsular ligament is thinner in the shoulder, it is evident that the muscles must play a very important part in the prevention or production of dislocations. In luxations, when the force is sufficient to carry the head of the bone out of its socket, the muscles are torn as well as the ligament, which shows that it is not the capsule alone that holds the bone in place. He had also noticed the occurrence of spontaneous reduction by muscular action after the failure of the attempts of a surgeon. Dr. Hamilton, in his work on fractures, reports such a case.

Dr. H. Leaman said that he had a case of axillary dislocation of the humerus of three months standing, and inquired whether it would be proper to make persistent efforts at reduction or not.

Dr. Henry H. Smith, from the chair, replied that after the adhesions had been broken up, such a dislocation could generally be reduced with the greatest facility by manipulation. He mentioned the case of a muscular driver of a dray, who had sustained a dislocation of the humerus, and an attempt to reduce by Jarvis's adjuster had failed; he then used manipulation, and the reduction was readily accomplished.

Dr. Allis remarked that the character of the wound in the capsule would have much to do with the facility of reduction. If slit-like, as has been stated, it would furnish a reason for occasional failure in reduction.

Dr. Nancrede said that the muscles play a more important part in keeping the head of the humerus in its socket than the ligaments around the joint; indeed, the ligaments must constantly be somewhat relaxed to allow free circumduction of the arm. He then referred to the insertion of the muscles coming from the scapula, and their actions. Having learned the method of reducing dislocations of the shoulder-joint from the President, Dr. Smith, thirteen years ago, he had employed it ever since. He had failed once in a case of some duration, when he came to the conclusion that it had been complicated by fracture of the humerus.

As for the shape of the tear in the capsular ligament, he had never dissected a recent dislocation, but could see no reason why it should be slit-like. It would more likely be the case that the sub-scapularis should be torn, and the tear in the capsule must then take place transversely rather than in the direction in which the force was applied. He had noticed in one case that atrophy of the deltoid followed a luxation which had been promptly reduced; this atrophy he explained through an involvement of the circumflex nerve, either in the original injury or by the subsequent inflammation. In illustration of the ease of reduction in some cases, he referred to a girl who came back to the Episcopal Hospital every few weeks to have her humerus put back into its socket. On one occasion she was unruly and tried to run away. The doctor caught her by the arm as she ran, and the bone slipped into place.

Dr. Charles H. Thomas presented a metric gauge, and made some remarks upon this convenient method of verifying the sizes of urethral instruments (see vol. ix. page 501).

Dr. W. B. Atkinson introduced Dr. Nardyz, of Greece, who exhibited a number of models of pathological objects prepared by a new process.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MAY 22, 1879.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Specimens of contraction and dilatation of the orifices of the coronary arteries. Presented by Dr. FREDERICK P. HENRY.

J. M., a sailor, æt. 31, was admitted to the Episcopal Hospital on March 3, 1879. He complained of a constant pain in the chest, on the right side, anteriorly, over the second intercostal space. At times there were exacerbations, during which the pain travelled down both arms. Besides this there were complaints of steadily increasing weakness and almost nightly seminal emissions. The man was unusually well developed as to his muscular system, but his skin was sallow and dirty-looking.

When about twenty years old he was subject to convulsions, of which no definite account could be obtained, and about ten years ago (*i.e.*, when about twenty-one) had an attack of general œdema. Eight years ago he had a chancre, and three years ago he was treated in the Episcopal Hospital for facial neuralgia, and again, a year after, for intermittent fever. For the last three years he has been subject to spermatorrhœa. He knew of no cause for his last illness, unless it was exposure to wet and cold, and straining in pulling the ship's ropes.

The chest was carefully examined on more than one occasion, especially over the seat of pain, and, so far as the lungs were concerned, nothing abnormal was detected. There was a distinct aortic-systolic murmur and rapid and forcible cardiac pulsation. The urine was examined for albumen, with a negative result. Not feeling satisfied with this, I examined it microscopically, and found numerous granular casts. I examined the urine on four occasions without finding albumen, but on none of these were casts absent. This, I need scarcely remark, is very exceptional. At the last examination the urine was found to contain numerous spermatozoa. The patient grew steadily weaker, and the pain beneath the second intercostal space remained constant, while the paroxysms of angina became more frequent.

On April 12, 1 P.M., there was orthopnœa; pulse 140; respiration 40; with an expectoration of a thin, almost serous, light coffee-colored sputum, on the surface of which floated a beer-like froth. In the course of an hour he expectorated nearly six ounces of this material. An inhalation of five drops of nitrite of amyl had the effect of increasing the cough without mitigating the pain or dyspnœa. The man died the same evening.

The autopsy was made twenty-eight hours after death. Rigor mortis was very marked; the pericardial sac contained about two ounces of serum; the veins upon the surface of the heart were distended with blood; the cavities of the heart contained fluid blood, —in greater quantity on the right side; the pleural surfaces of the right lung were united by a strong band of adhesion, which began in the second interspace about an inch from the right border of the sternum, and, following the direction of the interspace, passed upward and outward, to terminate on the postero-lateral surface of the lung, a little below the apex. This band of adhesion at its widest portion (the centre) was about two inches in diameter. It will be observed that this adhesion was directly beneath that portion of the chest-wall where, during life, the patient complained the most of pain. The lung beneath the adhesion was healthy, as well as throughout the rest of its extent; the left lung was entirely free from adhesions, and perfectly healthy; the walls of the heart were pale, flabby, and almost fawn-colored, but of normal thickness; the cavities of both sides are somewhat dilated; the weight of the heart, with about two inches of the aorta, is fourteen and a quarter ounces; the internal surface of this portion of the aorta is elevated in uneven ridges, no portion of the intima appearing free from disease, this roughening of the surface being most marked about an inch from the aortic valves. The mouths of the coronary arteries are constricted almost to the point of occlusion. The kidneys are decidedly granular, which condition gives rise to the question whether the general œdema from which the patient suffered, ten years ago, was due to an acute parenchymatous nephritis, recovered from but followed by the chronic interstitial inflammation. The right kidney weighs three and one-half ounces; the left, four and one-quarter. In the latter a cyst, the size of a large pea, was found near the upper end of the posterior surface. On removing the capsules, portions of cortical substances adhered to them.

Specimen No. II., that of dilatation of the coronary orifices, was removed from the body of a colored man, æt. 49. I have been unable to obtain a complete history of the case. He was admitted to the Episcopal Hospital on February 13, 1879, and when he came under my care was suffering with the symptoms of combined heart and kidney disease in their last stages. Most prominent among these were universal anasarca and ascites. The heart's action was feeble and its sounds muffled, but unaccompanied by murmur. The urine contained albumen in moderate quantity and a great number of highly-granular casts: these were so numerous that, in the specimen examined, on moving the slide about, there was always at least one cast to be seen in the field of the microscope. The man died on April 15, 1879, from increasing dropsy and gradual failure of the heart's action.

At the autopsy the mitral valves were found to be slightly thickened, but apparently competent. The left ventricle was filled with a large currant-jelly-like clot. A large patch of atheroma, about the size of a Lima bean, was found on the internal surface of the auricle, just above the larger leaflet of the mitral. The left ventricle was dilated and its walls hypertrophied; the left auricle was also dilated. The cavity of the right ventricle was not dilated, nor were its walls hypertrophied; contrasted with the hypertrophied left side, it even appears smaller than normal. The right auricle was dilated; the valves of the right side were in no way affected; the aortic valves were competent. The internal surface of the aorta, just above the valves, is the seat of extensive atheroma, which continues for three inches upward,—that being the extent of the artery examined. The orifice of the left coronary artery is greatly dilated, being the size of a three-cent piece; the right coronary is also dilated, but not to the same extent. Both these vessels are given off at a higher point than usual, especially the left one, which arises about three-fourths of an inch above the free border of the semilunar valves. The aorta itself is greatly dilated, its circumference measuring three inches and three-fourths. The heart, with three inches of aorta, weighs twenty-two ounces. The kidneys were intensely congested, dark blood flowing freely from them on section. The left one weighed six ounces; the right, a trifle under six. The liver was somewhat stained with bile, but otherwise healthy. The lungs were œdematous, and there were pleuritic adhesions on both sides, more extensive on the left.

In neither of the two specimens do the coronary arteries present the sole or even the most conspicuous lesion, but in one of them (that with contracted coronary orifice) all will admit that, in its effect upon the heart, it is probably the most important pathological change; and I hope to be able to show that it is at least probable that this is also the case with the other specimen,—that with dilated coronary orifice. In the specimen of contracted orifice the most conspicuous change is a very great degree of chronic endarteritis; there is also some cardiac hypertrophy, the heart weighing over fourteen ounces. In the other specimen the cardiac hypertrophy is much greater, the heart alone probably weighing over twenty ounces. The valves appear to be competent, and in neither case was there a *valvular* murmur. In Case I. there was a murmur, and a very distinct one, but it was undoubtedly caused by the great roughening of the aortic intima.

These specimens appear to me to possess a great degree of interest in connection with the etiology of cardiac hypertrophy. The circulation in the coronary arteries is generally looked upon as exceptional, in that it occurs during the cardiac diastole. It is supposed that this is due to the fact that during the heart's contraction the pressure upon the blood-vessels ramifying in its substance is too great to permit of circulation. Doubtless this is true, but a moment's reflection will show that throughout the body the circulation is most active during diastole. This is plainly demonstrated by the sphygmograph. The pulse is synchronous (or nearly so) with the systole, and the pulse is produced by a wave motion, a distention of the artery; and the portion of the sphygmographic tracing that corresponds to the pulse is an almost vertical line. As we approach the heart this line becomes more and more vertical,—that is to say, the onward movement of the blood becomes less and less during systole, until finally, in the coronary arteries, there is no onward movement whatever at that time, and the circulation is altogether diastolic.

It is evident that, other things being equal, the activity of the coronary circulation is in direct proportion to the degree of aortic tension. If, as in Case I., the coronary arteries, from disease of their orifices, fail to yield to the aortic tension, compensatory hypertrophy cannot take place, and speedy death ensues. On the other hand, if the coronary arteries yield too readily to the aortic pressure, the hypertrophy progresses too rapidly, its limit is soon reached, and dilatation and degeneration, with their attendant dropsy, are soon followed by a gradual failure of the heart's action. There is a limit between these points, and it is conceivable that in some cases a moderate amount of aortic regurgitation might be conservative. In Case II. there does not appear to be sufficient cause for the great degree of cardiac hypertrophy; the gross appearances of the kidney are not those of cirrhosis, but rather of the form of renal disease that is usually found with cardiac valvular disease, which has been denominated cyanotic induration. An undue supply of blood to the heart from relaxation of the coronary vessels cannot well be excluded from an attempt to explain the hypertrophy present, and this renders the case one of great interest.

Cystic and tubercular kidneys. Presented by Dr. H. F. FORMAD.

These kidneys are from a girl aged 19, German; occupation, milliner; family history good. A year ago she contracted a cold, had high fever and cough, and, although she soon left her bed, was never well since, and began to lose flesh. Her menstruation became irregular and scanty, and finally ceased altogether. She never had hæmoptysis. I saw her for the first time six months ago, diagnosed phthisis, and treated her accordingly. She had also cystitis,—ascertained by the symptoms which accompany this affection, and by microscopic examination of the urine. The latter was carefully examined nearly every week up to the time of the patient's death, but at no time could any indication of kidney-disease be demonstrated. Albumen was found at times in very small amount; quantity of urine was usually about normal; suppression never occurred.

The autopsy confirmed the diagnosis. Besides, it revealed tuberculosis of the spleen and a fatty liver; but, in addition, there was found intense kidney-disease, which it was impossible to diagnose during life.

The *right kidney* is reduced to a quarter of the normal size; weight one ounce; capsule adherent; ureter and pelvis completely obliterated. On section, the glandular structure is seen to be perfectly destroyed and replaced by cysts,—one the size of a walnut, and several smaller ones. The cysts are smooth internally, and filled with an odorless, reddish fluid containing albumen.

The *left kidney* is enlarged to nearly double the normal size; weight ten ounces; capsule not adherent. On section, the parenchyma is of a dark-red color; numerous grayish nodules were seen; also a few small softening cysts.

Microscopic Examination.—The walls of the cysts of the right kidney were found to be lined by long columnar epithelium; the fluid of the cysts contained large and small epithelium,—both columnar and squamous,—together with fragments of broken-down uriniferous tubules and Malpighian glomerules, leucocytes, and cholesterin. The left kidney showed a typical parenchymatous nephritis, the whole parenchyma, moreover, being infiltrated by embryonic cells, obscuring, in circumscribed spots, the glandular structure. In these spots the cells are collected in dense groups, and are imbedded in a reticulum free of blood-vessels, thus resembling miliary tubercles. No tube-casts could be observed in the uriniferous tubules; their absence here, as well as in the urine, is an interesting feature in this case.

The view of Prof. Tyson, that there is a frequent coexistence of cystitis and cystic kidneys, has in this case an additional support.

I do not believe that tube-casts ever are retained any length of time in the tubules of the kidneys. Charcot and some other writers on kidney-diseases assert that casts formed in the convoluted uriniferous tubules are prevented from passing out with the urine through the constriction of the loops of Henle. I have several times observed, in sections, that these constricted portions of the tubules are capable of considerable distention or widening when filled with casts, new-formed cells, or any urinary concretions. The tubules are made up of an elastic substance, which can easily be distended wide enough, certainly, to allow the passage of such soft and compressible bodies as the urinary casts, especially under the high pressure which is exerted upon them by the column of urine. I am also led to believe that there is not a loop of Henle connected with every glomerule or every convoluted tubule. Henle himself does not assert the invariable accompaniment of a loop to each glomerule, although this is erroneously taken to be the case; it has, however, never been proven. Examining some sections made across the whole of a cat's kidney by the cutting-machine, after the method of Dr. Seiler, it appeared to me that a uriniferous tubule started from the glomerules and passed down to the papilla, without diminishing in its course in calibre, and without forming a loop of Henle. If this is frequently the case (and probably it is), then my argument that urinary casts formed in the convoluted tubules can always easily pass out with the urine has an additional support. The investigation of my friend George H. Rose, to whom I suggested to work up this subject, points also decidedly to the affirmative of the above suggestion.

An account of a case of congenital malposition and immobility of the intestine. By Dr. ARTHUR V. MEIGS.

The ante-mortem notes of the case were furnished me by my father, Dr. J. Forsyth Meigs, who attended the child for some time before it died. The child was born about the middle of June, 1874. When born it was rather weak, and did not very thoroughly establish its respiration; it was somewhat bluish for the first ten days of its life, and cried but feebly. The nurse thought the action of the heart too strong and too frequent, and that the breathing was not natural. The accoucheur who attended the mother believed that the child had not expanded the lungs thoroughly, and that it would probably improve in time. It took the breast well, and the mother (a healthy woman) had plenty of milk.

When about two weeks old it began to cry violently and persistently, as though with some severe pain. This continued from time to time until August 24, when the child was sick and suffering; it was hard to say why, for it did not look badly. It was rather small, but not emaciated; the bowels were moved every day, and the stools were well digested. It was very drowsy, and lay with the head drawn backward, breathing with some effort; but it had had a full dose of morphia on this day. The respiratory sounds were natural; the heart beat rather violently, and over a larger area than usual, but there was no abnormal sound; the abdomen was somewhat full and tympanitic, but not hard or painful on pressure. It took the breast freely.

There seemed to be some fault in the digestion, and that possibly the child might be hungry. The main symptom was the screaming, as though with some severe and steady pain, often for two or three hours at a time. A trial of feeding was advised, and equal parts of milk, cream, lime-water, and thin arrow-root water were ordered; also a carminative of paregoric, aromatic syrup of rhubarb, bicarbonate of soda, and mint-water. After this the screaming still went on, so as almost to madden the mother, and the infant began to grow thin and weak. Inunctions of cod-liver oil were used. Deodorized tincture of opium was given, one or two drops at a time. It was seized with coryza and cough, and began to sink.

September 12, it was very ill, had become quite thin, and was feeble and took very little food. Pulse was 168, and respirations 84. Loud, coarse râles were audible all over the chest and some distance from the body. The respiration was distinctly bronchial. The case looked like one of acute tuberculosis or catarrhal pneumonia. From this time the child sank, and died on the 13th or 14th.

I made a post-mortem examination September 15, 1874.

The body was very small and emaciated.

Lungs.—Neither was very fully expanded, but the left crepitated throughout. There were spots at the lower edges of the upper two lobes of the right lung, which were hard and dark-colored and did not crepitate at all. Both apices were crepitant.

Heart.—The walls of the auricles were only about one-eighth to one-sixteenth of an inch thick; the foramen-wall was entirely closed. The walls of the ventricles were from one-third to one-half an inch thick, that of the right being slightly thicker than the left. The mitral, tricuspid, and aortic valves were healthy.

Liver, healthy.

Intestines.—The duodenum came off from the stomach as usual, passed under the liver, and descended to the level of the right kidney, where it made a sudden reverse turn and passed back parallel to its downward course. For about three inches before and three after it made the sharp bend the intestine was tightly bound down, being almost absolutely immovable. The small intestine, after leaving the region of the kidney, instead of passing behind the colon as usual, made a bend forward and passed in front of it, slightly to the right of the median line. Where the two intestines crossed each other they were tightly bound down; the mesentery being very short, they had consequently little motion upon each other. The rest of the small intestine was healthy. The lower half of the transverse and half of the descending colon were tightly adherent to the posterior wall of the abdomen, there being almost no mesentery. The rectum and lower half of the descending colon were greatly distended with gas. There was not the slightest apparent narrowing of the calibre of the intestine anywhere.

This child died from the condition of its intestine. It never thrived, but suffered constantly from intestinal trouble,—so much so as to cause the attending physician to suspect some obstruction of the bowel, which proved to be the state of the case, for at the point where the small crossed in front of the large intestine the two were so closely fastened together that it would have been impossible for both to have been fully open at the same time. If one was patulous, it encroached upon and pressed in the walls of the other; so that if both were at work at the same time, a considerable amount of ingesta passing up the small intestine, the large also doing full work, one of the streams must have been stopped or greatly impeded. Then there was the great immobility of the intestine at different places. The jejunum had hardly any mesentery at all,—both before and after it made its very sharp reverse at the region of the kidney. The large intestine also was, as stated in the notes, less free than usual in about half its entire length. That the child should have had such violent pain as to make it scream so continually is strange. I cannot explain it. Perhaps this condition of things may help some one to explain the mechanism of the production of colic. The collapse of the lungs, which was the immediate cause of death, may possibly have been produced or, at least, increased by the continual and violent crying of the child. This suggestion I would call especial attention to, as an additional argument in favor of the theory which is advanced by my father, Dr. Meigs, in an article in the *American Journal of Obstetrics and Diseases of Women and Children* for January, 1879, that prolonged violent crying may produce collapse. Another curious feature was the fact that the right ventricle was thicker than the left. I cannot understand why this should have been.

Unexplainable tumor of mammary gland.

Presented by Dr. J. E. GARRETSON.

The tumor upon the table is, I presume, what the examining committee will denominate, in histological language, collonema. The growth, as will be seen on examining it, is about the size of a pullet's egg; it is soft and friable; it very much resembles glue. The situation occupied by it on the body is the location shown in the specimen, being the right mammary gland, a little to the left of its vertical centre.

Clinically, the tumor impressed the touch as being a scirrhoma. It was hard, nodulated, movable. The history of it began in a nodule accidentally discovered. Three years has been the length of time required to gain its present bulk.

The interest attached to this growth, so far as I myself am concerned, lies not farther in the histological direction than suffices to enable me to know it as a neoplasm,—in other words, as a something about which I know myself to be profoundly ignorant; in still other words, as an abnormality which has in itself no anatomical or physiologico-pathological data which enable me to understand and rationally treat it. It is an unexplainable tumor, in contrast with a hundred others that I feel I know a good deal about,—hernial tumors, for example; odontoceles, hydroceles, ranulæ, sebaceous cysts, etc. It is one of a class of tumors that I am not any wiser about than when, twenty years ago, I commenced to study these things. Not but what I have somewhat enlarged my vocabulary in the direction of big words, but I am compelled to the admission that I have not yet found myself enabled to learn of a clinical difference between fibroma and encephaloma,—that is to say, I treat the latter by the mechanical act of cutting it away from the body, and that is the way, too, that I treat the former. A hernia, on the contrary, I reduce; a hydrocele I puncture; for the cure of an odontocele I pull out the tooth that is the offence.

The histological study of what I have taken the liberty to designate as unknown tumors—that is, every tumor which has not in itself its own explanation; all that kind of tumors of which the fibro-plastic is the type—seems to me to lead to little outside of the gratification of a kind of optical ambition, if it lead not to turning the microscope in the direction of the arcana of cause. There is, for example, a vice erratically, and without reason, called carcinoma. The specimen upon the table is an illustration of it. Were the specimen a myxoma, it would still be an illustration of it. Were it a fibroma of simple concentric development, I would accept it, from lack of better information, as a spoke of the same wheel. Can histological study find out the reason for a fibroma as it finds explanation of a sebaceous cyst? Can it find out why a simple fibroma, when removed, may come back with great increase in the cellular element? Can it explain why a myxoma, which is a fibro-plastic growth, returns, when extirpated, as sarcoma or as encephaloma? One true good, certainly, is to be credited to this study; it has demonstrated that no diagnostic skill can point the line of demarkation between fibroma and encephaloma.

I have brought the specimen to the table, not, of course, with the idea of showing anything different from what is seen here every meeting-night, but in a sense of personal weakness of judgment in the direction in which it leads. At the last meeting of the Society I presumed to criticise the practice of one of the members from the stand-point of what I deem to be a reasonably solid footing. At this present meeting I desire to acknowledge *myself* exposed, and this for the reason that, after three years of study of the case before us, I am not clear in my mind that the course pursued has been the best one. Can the practice which shows a nodule let alone for three years; a marriage permitted; a baby allowed to feed nine months at a diseased breast; finally, the milk dried up and the gland amputated,—can this practice be faulted by any experience wider than that which has influenced the course pursued?

Dr. H. LENOX HODGE stated, in answer to the questions of Dr. Garretson, that in a case of a tumor of this character he would consent to marriage. The growth, if let alone, would probably increase in size during lactation, on account of the larger amount of blood going at that period to the breast. As the tumor was distinct and separate from the proper structure of the mammary gland, no injury to the child was to be anticipated. If there was any tendency hereafter to the development of such a growth in the child, it would probably be due to inheritance at the time of conception, rather than to nursing at the breast.

Report of the Committee on Morbid Growths.—"The mammary tumor presented by Dr. Garretson is found to consist, histologically, of round-, oval-, spindle-, and stellate-shaped cells, in which a relatively large nucleus is seen; an intercellular substance, partly fibrous and partly structureless or granular, is present. Here and there through the nodule are observed the atrophied ducts and acini of the gland; the ducts, when seen in transverse section, are found to have their lumen obliterated by a proliferation of the lining cells.

"A section taken from the gland in the proximity of the tumor shows a slight infiltration, of a similar new formation, into the glandular tissue.

"The tumor may be considered as myxomatous in nature. There is also an infiltration of the surrounding tissue by the myxomatous element. . . . .

"June 26, 1879."

REVIEWS AND BOOK NOTICES.

A CLINICAL TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By M. ROSENTHAL, Professor of Diseases of the Nervous System at Vienna. With a preface by Professor CHARCOT. Translated from the Author's Revised and Enlarged Edition, by L. PUTZEL, M.D. New York, Wm. Wood & Co., 1879, 8vo, pp. 278.

Among the merits of this book worthy of special mention are its uniformity of plan and systematic divisions and subdivisions, the well-chosen amount of space and attention which are devoted to each disease, the careful presentation of the subjects of symptomatology, diagnosis, and prognosis, and the numerous concise reports of original pathological and histological observations. Proper prominence is given to Brown-Séquard's clinical as well as to his physiological researches. Compression-myelitis is well discussed in several valuable, practical chapters. Diseases of the medulla oblongata are very properly considered under a separate class. A treatise on nervous diseases, with a classification throughout based on the localization of lesions, cerebral and spinal, is, we think, a desideratum.

Some attention and even prominence is given by the author to this subject of localization, but here he is not in every particular level with the knowledge of the day. Under the head of "Special Symptoms depending upon the Seat of the Hemorrhage" (encephalic), one of his subdivisions is the too broad one of *hemorrhage into the cortical substance*, in which he says psychical troubles play the chief part. The terms *middle and posterior lobes* are not to be recommended. Ecker's classification of the lobes of the brain into frontal, parietal, temporo-sphenoidal, and occipital is the best for descriptive purposes. In treating of tumors of the brain, in a chapter very valuable in many respects, he makes, with reference to locality, twelve subdivisions, the first four of which are tumors of the convexity of the brain, of the anterior, of the middle, and of the posterior lobes.

As he evidently subscribes in the main to the views of Fritsch and Hitzig, and of Ferrier, it would have been far better to have adopted a classification like that employed by the latter, into the psychical, motor, and sensory regions, etc., of the convolutions, and into the divisions of the centrum ovale. The convexity of the brain may mean portions of either frontal, parietal, or occipital lobe, of psychical, motor, sensory, or vegetative zones. The sections in which he treats of tumors of the pons and cerebellum, and of the peduncles, cerebral and cerebellar, are the most satisfactory.

"Tendon-reflex" is not sufficiently brought forward in his symptomatology. In a work intended largely for the general practitioner the therapeutic directions are not always sufficiently definite and specific.

Considerable attention is given to hydrotherapeutics, a subject about which but little is known in this country. Under the head of chronic primary myelitis, and in the chapter on posterior spinal sclerosis or locomotor ataxia,—one of the best articles in the volume,—special directions are laid down in regard to hydro-therapeutic measures. A brief explanation of the probable mode of action in methodical hydro-therapy is also ventured. Electricity receives full and fair attention, as might be expected from Rosenthal, one of the best known workers in electro-therapeutics.

Considering the price at which the series is offered to the profession, the make-up of the book is excellent. C. K. M.

Syphilis of the Brain and Spinal Cord. By Thomas Stretch Dowse, M.D. New York, G. P. Putnam's Sons, 1879.

In this book the author certainly does what he claims in his preface he has tried to do,—present in a concise form the results of his personal investigations into the nature of the syphilitic lesions which affect the brain and nervous system. It is largely made up of the reports of original cases and autopsies. These are usually given with just sufficient fulness and exactness, the author having struck that golden mean which is so desirable between what Moxon has happily designated as the "intensive" and the "extensive" methods of recording medical observations.

The two cases detailed—one from Dr. Barlow and one by the author—illustrating the existence of substantive changes in the brain and nervous system, the result of hereditary syphilis, are of extreme interest and importance. Reference is also made to observations on this subject by Graefe, Hughlings Jackson, and Heubner. In Dr. Barlow's case, evidences of syphilitic infiltration were abundant in both the nerves and vessels of the brain; in Dr. Dowse's case, three growths of like character were found, and these were shown by microscopical examination to be made up of the elements of a gumma without apparently having undergone any degeneration. Accumulating clinical experience has for some time been inclining us to the view that we may have from transmitted taint real syphilitic growths in the central nervous system.

The short chapter on treatment is one of the most valuable portions of the book. Many useful remarks on treatment are also given in connection with his descriptions of cases under other headings. He teaches not to rely too exclusively on any routine plan of treatment. We are glad to hear him sounding anew the praises of such remedies as blue mass, gray powder, and Plummer's pill, which are too often discarded for more fashionable preparations and combinations. Of great practical value are his remarks, on pages 54 and 55, on syphilitic lardaceous changes, in which, at first, mercury (especially) and iodide of potassium are as hurtful to the individual as opium would be in the coma of uræmia.

The chapters on syphilitic epilepsy and on pathology contain much both of actual and suggestive value. Primary idiopathic epilepsies are held to be more due to hereditary syphilis than to any other cause. The author states that both his knowledge and belief are in favor of the doctrine of cross-paralysis, although he details a few opposing cases. He evidently, however, cannot restrain an inclination to give the pioneers and advocates of localization an occasional dig. C. K. M.

Manual of the Principles and Practice of Operative Surgery. By Stephen Smith, A.M., M.D., etc. Boston, Houghton, Osgood & Co., 1879. 12mo, pp. 689.

This is one of the most satisfactory works on surgery, of its class, with which we have ever met. Compact to an extraordinary degree, and crowded with illustrations, it offers an enormous amount of information, of just that practical sort which is most frequently needed by the general practitioner of medicine, who needs a handy and trustworthy guide in the various operations which he may be called upon to perform at a moment's notice. The work, its author tells us, has grown out of the "Handbook of Surgical Operations," published by him during the late war, and which attained a very general popularity. Its plan leads him, first, to treat in a succinct manner of general principles. Then the various systems are taken up in order; *the osseous*, *the muscular*, *the circulatory*, *the nervous*, *the tegumentary*, each has its chapter, subdivided under the heads of *injuries*, *diseases*, and *general operations*. Subsequent chapters treat of *the digestive*, *the respiratory*, *the urinary*, and *the generative* organs, and a final chapter is devoted to *the extremities*, followed by a copious index.

When we come to examine Dr. Smith's work in detail, we see that this same methodical plan of treating the subject is carried out in every respect. The illustrations with which the book is filled are, many of them, mere rough pen-and-ink sketches, but they are sufficient to illustrate the text and add greatly to the value of the work. We cannot commend the form of reference to authors which is employed; it is vexatious to be constantly referred to a profusion of proper names at the foot of each page, often when the remark quoted is quite commonplace. In a manual of this sort a general reference at the beginning or end to all the authorities made use of would seem to be sufficient. We would suggest to the publishers that a somewhat less soluble material be used in coloring the binding. It is annoying to find, after handling a book, one's hands stained of a lively magenta-red.

The Student's Guide to the Diseases of Women. By Alfred Lewis Galabin, M.A., M.D., F.R.C.P., etc. Philadelphia: Lindsay & Blakiston, 1879. 12mo, pp. 370.

It is seldom our good fortune to read a new work which gives us so much genuine pleasure as the one before us. Though the book is a small one and the subject extensive, yet so admirable is the style of the writer, and so careful his selection of words, that each disease is thoroughly treated of. Dr. Galabin is best known to the profession in America as the able editor of the *Obstetrical Journal of Great Britain and Ireland*, and the favorable opinion already held of him in this country will, we think, be greatly increased by the appearance of this little volume.

The author seems to possess the valuable faculty of grasping the essentials of his subject and expressing them clearly in a few words; at the same time he is accurate, comprehensive, and brief. In addition to the views generally entertained at the present time on uterine pathology, the author gives us the results of his own investigations, more particularly in the chapter which treats of cancer of the uterus.

We have none but words of praise for this new addition to medical literature in so far as the author's work is concerned, and recommend it highly to every practitioner as well as to every student of medicine. We regret to add that many of the engravings, though all are well selected and of very suitable size for the dimensions of the book, are very badly executed. E. R.

Eyeball Tension: its Effects on Sight, and its Treatment. By W. Spencer Watson, F.R.C.S., etc., 1879.

This little *brochure* is a careful and succinct statement of the present views regarding glaucoma. This term, however, the author would consign to the same oblivion which has overtaken amaurosis, since the characteristic symptom—increased tension—is associated with widely-differing conditions. Regarding the essential nature of glaucoma, he has very carefully chosen a safe middle ground by placing himself on record as in favor of a "modified mechanical theory." Given an abnormally-rigid sclerotis and increased contents from "hypersecretion" or "obstruction to outlets," and we have glaucoma.

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Medical Treatment of Hemorrhoids.—Dr. E. T. Sabal, of Jacksonville, Fla., submits to the *Medical Brief* for August, 1879, the following:

℞ Iodoform, ʒj;
Powder very fine in a mortar, and add
Powdered opium, gr. xv;
Pomade vaseline (or cosmoline), ℥j.

Mix. Apply locally, morning and night, and after every action of the bowels, after first washing with warm or cold water.

GLEANINGS FROM EXCHANGES.

Retention of Urine in Elderly Men.—Dr. S. W. Gouley (*New York Med. Record*, vol. xvi., No. 8, 1879), in a clinical lecture on this subject, speaks as follows:

A safe rule for your guidance in the management of cases of acute retention of urine of forty-eight hours' duration, is never to draw off more than one-third of the contents of the bladder, and to do this very slowly, by half closing the distal end of the catheter, so that the urine will flow in a very small stream. Having collected half a pint, close the catheter for a quarter of an hour, then let another half-pint flow, and so on until the required quantity has been obtained. In two hours repeat the catheterism if the first has been easy,—otherwise the catheter should be closed, and left in for twenty-four hours,—and remove again the same quantity very gradually, and at the expiration of another period of two hours you may completely empty the bladder, always slowly; and in this way you will have taken the necessary precautions to avoid both cystorrhagia and polyuria. Every three hours after the last catheterism the urine should be drawn off until the patient can pass it spontaneously; if he cannot do so, of course the catheter will have to be resorted to at such intervals as may be found necessary. You will also have to treat the existing vesical inflammation and atony. For general medication I would recommend the tincture of chloride of iron in five-minim doses three times daily, and also diluent drinks, such as thirty grains of citrate of soda or potash in half a glass of water three times daily, and in a few days, for a change, dog-grass tea, etc. Topically, lumps of ice the size of the last joint of the thumb should be introduced into the rectum in rapid succession as fast as they melt, for an hour, night and morning. A bag of ice may be afterwards applied alternately to the perineum and hypogastrium for an hour or more. Each time the bladder is emptied by the catheter, a couple of ounces of cold borax solution, from five to ten grains to the ounce, should be thrown in and allowed to run out slowly, then two more, and two more ounces which should be left in and the catheter withdrawn; this can be accomplished in five minutes. No preparation gives me more satisfaction than the borax solution for cleansing bladders which contain offensive purulent urine. It is as well to have in readiness a strong solution of borax in glycerin; one ounce of the biborate of soda will be readily dissolved by six ounces of glycerin, each drachm of such a solution being equal to ten grains of biborate. In a week or thereabouts, if the case should progress well, the irrigations may be diminished in number until only one is used each day. In some cases a mild faradic current is serviceable.

Besides hemorrhage, polyuria, as I have already said, is very apt to follow the sudden evacuation of an overdistended bladder, and you will generally prevent its occurrence by observing the caution that has just been given. I know of a case of polyuria which followed the withdrawal of three pints of urine in the course of one hour, one pint at a time, the third pint completely emptying the bladder. The catheter was left in, and every hour for twenty-seven consecutive hours one pint of urine was drawn. After this the amount of urine gradually diminished, until only six pints were removed each twenty-four hours. At the end of three months it was reduced to four pints daily.

The case just cited is exceptional, for ordinarily it is safe to empty the bladder—slowly, of course—at one catheterism, when the patient is seen during the first twenty-four hours of an attack of acute retention.

TRUE JAMES'S POWDER.—Dr. P. O'Connell, in an article on this medicine (*Chicago Med. Jour. and Exam.*, August, 1879), says that the pharmacopœial preparation under this name is not the same and is not as effective as that made according to the old formula. The latter is as follows: Tartarized antimony, one part; prepared burnt hartshorn and calx of antimony, of each five parts; carefully mixed together, and divided into twenty one-grain powders.

Dr. O'Connell has used this preparation as a febrifuge in the dose of twenty to thirty centigr. (3 to 4½ grains) to adults every two, three, four, or six hours. In this dose it will produce, but more slowly, the same depression of temperature as one to two grammes of quinine once or twice a day. Being tasteless, it can be taken with or without sugar, by young or old, on the most delicate stomach. Its cost, too, is only about half that of quinine at present rates.

It is diaphoretic, antiperiodic, and antipyretic. Its diaphoretic action is gentle and moderate. As an antiperiodic, in the intermittents of children, he finds it quite as prompt and as effectual as quinine. As an antipyretic, he notices a steady decrease in the temperature and in the pulse-rate as soon as its administration is commenced. It does not, any more than quinine, prevent an increase of temperature when a fresh focus of inflammation is lighted up, such as the implication of a fresh lobe of the lung during the progress of a case of pneumonia. It seems to exercise a specific effect in puerperal inflammations in particular, arresting the morbid action, whether it be a metritis, cellulitis, or peritonitis, causing a very speedy and complete *resolution* of the inflammation, with return of the lochia. It appears to exert a very marked beneficial action in pneumonitis also.

CATARACT FOLLOWING TYPHOID FEVER.—As the etiology of cataract occurring in young adults is involved in considerable obscurity, the following observation of M. Trélat may prove interesting. He operated successfully for double cataract on a robust peasant-girl, 25 years of age. The most careful examination revealed none of the causes which are usually considered as originators of this evil. The age of the patient could not account for it; there was no interference with general nutrition; the urine contained neither albumen nor sugar, nor an excess of phosphates. Four years previously a sister of the patient, then about 24 years of age, was treated by M. Trélat for the same affection, and a similar want of ascertainable cause led him to examine the two cases together for some common cause. It was then found that in both cases, about three months before the commencing dimness of sight was first noticed, there had been an attack of typhoid fever, and this, M. Trélat thinks, was the curious cause of the cataract, the changes in the lens being analogous to those induced in the muscular tissue.—*New York Medical Journal;* from *Gazette des Hôpitaux.*

CACTUS GRANDIFLORA FOR CARDIAC PALPITATIONS.—Dr. N. S. Davis, of Chicago, in a "Report on Drugs and Medicines to the Illinois State Medical Society," May, 1878, says:

"The reading of a paragraph in some medical publication concerning the influence of the fluid extract of the cactus grandiflora, or night-blooming cereus, over cardiac palpitations led me to a clinical test of its medicinal virtues during the past year. The first case in which it was given was that of a female, aged about 28 years, whose nervous and digestive functions had been greatly impaired by the habitual use of morphine and alcoholic preparations. One of her most distressing symptoms while endeavoring to recover from the effects of her habit was cardiac palpitation, more especially during the early morning hours. From three to five minims of this fluid extract, given from four to six times in the twenty-four hours, afforded her great relief. Another patient was a man of good habits, but affected with chronic enlargement of the cervical glands, and apparently also of those along the bronchial tubes, and frequent paroxysms of suddenly-recurring palpitations, and with feelings of suffocation whenever attempting to take a recumbent position. He has been using the fluid extract of the cactus grandiflora about two weeks, with decided benefit in keeping the action of the heart more regular. It appears to exert a quieting influence over cardiac excitability, without any visible effect on the functions of the stomach or excretory organs. Although at present very expensive, it is certainly worthy of further investigation."

ON NERVE-STRETCHING.—A case of convulsions of the face, which was cured by stretching the facial nerve, is related in No. 40 of the *Berl. Klin. Woch.*, 1878, by Dr. Baum. The patient, a woman, aged 35, who had previously had a few epileptiform attacks, became subject to convulsive twitchings of the muscles of the left side of her face. They lasted generally for one minute at a time, and were repeated every two or three minutes. Finding that all the remedies used, and even the galvanic current, were of no avail, the author resolved to try whether nerve-stretching would prove successful. He accordingly laid bare the facial nerve near the stylo-mastoid foramen, and, seizing it roughly with a pair of forceps, he lifted the nerve from the surrounding tissue. The left side of the face was paralyzed for about half an hour, after which sensibility had returned, and the convulsions disappeared. The author ascribes a part of his success to the squeezing of the nerve, and points out that there is no danger of paralysis, as the latter, even if it should occur, is transitory.—*London Medical Record*, June 15, 1879.

A NEW PREPARATION OF QUININE SOLUBLE IN WATER.—In the *Centralblatt f. d. Med. Wiss.*, June 14, Dr. Jaffe, of the Hamburg General Hospital, reports the results of the trials which he has made of a new preparation of quinine, termed *quinia bimuriatica carbamidata*, formed by Drygin from a combination of twenty parts of muriate of quinia, twelve parts of muriatic acid, and three parts of urea. The resulting salt is soluble in equal parts of water, and is therefore eminently suitable for the administration of large doses of quinine by the hypodermic method. The trials that have been made of it at Hamburg have proved so successful that it is highly desirable it should be more widely known. A fifty-per-cent. solution has always been employed, so that a Pravaz syringe full (holding one gramme) will contain a third of a gramme of the salt. The quantity injected varied from a half to three syringes full. The local irritation consequent on the injection was in most cases very slight, and at most consisted in a circumscribed burning pain (which was soon relieved by cold Goulard water), without redness or swelling. Doses of a gramme produced in men scarcely any subjective sensations, and the noises in the ear complained of by women and children soon disappeared. The anti-febrile effects were evident and certain, intermittents disappearing after the second or third injection. This form of administration seems especially indicated (1) in those sensitive persons who have an invincible objection to taking quinine by the mouth; (2) when gastric affections coexist; (3) in children; and (4) in hospital and pauper practice, as a much smaller quantity of quinine is required than when it is administered internally.

INJECTION OF AMMONIA INTO THE VEINS IN ALCOHOLIC AND NARCOTIC POISONING.—Dr. Robert Hamilton, in a case of alcoholic poisoning, injected ten drops of strong liquor ammonia into the medio-cephalic vein of the right arm. The effect was striking; the patient, although apparently almost *in articulo mortis*, recovered entirely, only there resulted a slough at the point where the injection had been made. Dr. Hamilton also cites a case of carbolic poisoning, where an injection of ammonia appeared to save the patient's life. —*Lancet*, 1879, p. 158.

SMALL ELASTIC BANDS AS SURGICAL APPLIANCES.—A convenient and inexpensive surgical appliance will be found in the small elastic (pure india-rubber) bands, sold mostly by booksellers and stationers. A band one-sixteenth of an inch in thickness, three-fourths of an inch wide, and about three inches in length, doubled, stretched, and put about the wrist-joint, answers an admirable purpose as a tourniquet for amputation of any portion of the hand, especially where a small compress is placed under the band and over the radial artery at the wrist. A similar band could be used to good advantage in amputations of the foot, by placing it about the ankle-joint or just above it. In amputations of the fingers or toes, a much smaller band will answer every purpose, so far as a bloodless operation is concerned. This method of bloodless operation has been used in the amputation of a finger near the carpo-metacarpal joint, with the loss of scarcely a drop of blood.—*British Medical Journal.*

PYROGALLIC ACID AS A HÆMOSTATIC.—Prof. Huseman calls attention to the excellent results obtained by Dr. Vesey with pyrogallic acid, administered in the dose of three-fourths of a grain, at intervals of one or several hours, as a hæmostatic in cases of hemorrhages of the lungs and stomach, and suggests clinical experiments with it used externally as Vesey recommends it; the author considers it a probably reliable substitute for ergot.—*Am. Jour. Pharmacy;* from *Pharm. Ztg.*

LOTION FOR ILL-CONDITIONED WOUNDS.—Dr. Noël Guéneau de Mussy recommends the following lotion for rapidly expediting the healing of pale and ill-conditioned wounds:

℞ Decoction of poppies, 400 parts;
Alcohol, 40 parts;
Salicylic acid, 2 parts by wt.—M.

MISCELLANY.

"How much of 'hope deferred,'" says an English exchange, "is experienced by many doctors in the beginning of their career, before the guineas become plentiful, is little known by the public. It is said that the great surgeon Sir Astley Cooper, whose income eventually varied from fifteen to over twenty thousand pounds per annum, earned five guineas the first year, and in his fifth his fees only reached a hundred pounds. But the day came when patients waited for hours in his anterooms before they could obtain an interview with him, and even then, perhaps, were compelled to go away without a consultation."

ROBERT BRIDGES, M.D., has been honored by the title of Emeritus Professor of Chemistry, conferred upon him by the Philadelphia College of Pharmacy, which has also with the title appropriated the annual donation of one thousand dollars, as a more substantial token of regard for past services, now that ill health has compelled him to relinquish the position he has filled so long and honorably.

FOR GIVING ALCOHOL IN DISGUISE.—

℞ Syr. calcis lactophosph., ℥ij;
Spt. frumenti, ℥viss;
Glycerinæ, ʒvj;
Tr. cinchonæ comp., ℥jss.—M.

WE are sorry to have to record the death, at his residence in Philadelphia, September 8, of Dr. Clement A. Finley, ex-Surgeon-General of the United States Army, in the eighty-second year of his age.

NOTES AND QUERIES.

A HOMŒOPATHIC DOSE IN CAMDEN COUNTY.

ONE of the most important events in the management of public institutions that has occurred with us for many years has just happened in Camden County, New Jersey.

The board of chosen freeholders of the county erected, recently, a county insane asylum, and appointed a committee to manage it. The committee, not being posted in medical matters, suddenly, without the co-operation of the regular medical profession, surprised everybody by the experiment of placing a homœopathic practitioner in charge. This, of course, isolated the institution from all the benefits of regular medical skill and from the great insane asylums in the United States.

The experiment was a decided failure, and, after a trial of six months, the committee found it necessary to place a regular physician in charge. The homœopath, whose ability as a homœopath was claimed by the homœopaths to be above the medium, stated to the board, in his own defence, that he had administered the homœopathic treatment on the principle of "similia similibus curantur" to a patient suffering from epilepsy until the patient became so bad that he had fits at the rate of *one thousand* in six weeks, and that by resorting to *regular doses* of chloroform and applying ice to the spine the fits were stopped. Many other things proved that similia similibus curantur would not do; hence the change.

It is becoming very popular to multiply asylums now, and establish county institutions all over the country. This is a great mistake, as smaller institutions are always more expensive than large ones, and less successful in management of cases, owing to limited numbers, and county commissioners are not apt to know how to officer such medical institutions on small salaries.

The mistake in Camden County gave the regular profession much embarrassment; and it is very important for all county and State medical societies throughout the country to be on their guard, so as to appoint a committee from the medical society to co-operate with the county officers in such matters.

There appears to be a greater proportion of homœopaths in Camden County than in any other county that we know of anywhere; but there are also many other so-called "new schools," such as hydropathy, eclectic, clairvoyant, etc.

All kinds of influences, including the lowest, were used with the committee to have a homœopath appointed to manage the asylum. The official report of the committee is worth reading.

WARRINGTON, ENGLAND, 3d September, 1879.

TO THE EDITOR OF THE PHILADELPHIA MEDICAL TIMES:

SIR,—By a paragraph in our *Medical Journal* of Saturday last, I learn that my medical brethren in America are making efforts to procure relief for the exhausted shopwomen, whose long hours in a standing position undeniably injure their natural health and strength. Relying upon the invariable courtesy of our profession, I venture to send you herewith a short prospectus of a cheap invention which I originated a few years ago, and which has met with much valuable commendation, both at home and abroad. I have not, and never had, any pecuniary interest in the contrivance,—which I have designated a "stand-rest,"—but my idea has been most generously carried out by Mr. John Heywood, the well-known publisher and manufacturer of school-appliances, of Manchester. To him is also due the admirable contrivance for lowering or raising the upper part of the "stand-rest" so as to suit any stature.

I believe that one of the main objections raised by shopkeepers to their assistants' sitting down behind the counter is that it leads customers to imagine that they are careless of their custom; but with the "stand-rest" it is not easy to detect that the position is not upright, as may be seen by the accompanying wood-cuts. The "stand-rest" is in use by the lecturers in the Birmingham School of Medicine, than which it could not have a greater proof of usefulness.

It appears to me that the upper part of the body will receive more direct and substantial support when applied to the back of the inflexible sacrum than to the trochanters, as in the completely seated posture. I use the "stand-rest" much myself, and can read or write with comfort at my desk for at least two hours at a time.

I will conclude by saying that one of the "stand-rests" has been for some years placed, for exhibition and trial, in the educational department of our South Kensington Museum.

I am, sir, respectfully yours,
JAMES KENDRICK, M.D.

[The stand-rest spoken of above is, substantially, a three-legged stool, in which the top is placed, instead of horizontally, almost vertically, the incline being such that the board fits well to the buttocks in standing, and, no doubt, affords very material support.—ED. P. M. T.]

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 21 TO OCTOBER 4, 1879.

CLEMENTS, B. A., MAJOR AND SURGEON.—Granted leave of absence for four months. S. O. 228, A. G. O., October 2, 1879.

WEBSTER, W., MAJOR AND SURGEON.—Relieved from duty at Fort Warren, Mass., and assigned to duty at Fort Preble, Me., as Post-Surgeon. S. O. 167, Department of the East, September 22, 1879.

FORWOOD, WM. H., MAJOR AND SURGEON.—The leave of absence granted him in S. O. 128, August 13, 1879, from Headquarters Department of the South, extended two months. S. O. 218, A. G. O., September 20, 1879.

BROWN, H. E., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to leave the Department and apply for one month's extension. S. O. 205, Department of Texas, September 29, 1879.

BREWER, J. W., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months on Surgeon's certificate of disability. S. O. 219, A. G. O., September 22, 1879.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON.—So much of par. 3, S. O. 195, August 25, 1879, from A. G. O., as relates to him is revoked. S. O. 220, A. G. O., September 23, 1879.

KIMBALL, J. P., CAPTAIN AND ASSISTANT-SURGEON.—Having reported in person at these Headquarters, assigned to duty at Fort Sanders, Wyo. T. S. O. 82, Department of the Platte, September 20, 1879.

O'REILLY, R. M., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to leave limits of the Department. S. O. 145, Department of the South, September 26, 1879.

TAYLOR, B. D., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for three months, with permission to apply for an extension of one month. S. O. 222, A. G. O., September 25, 1879.

GRAY, W. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—When relieved from duty at Fort Colville, W. T., to proceed to Vancouver Barracks and report to the Commanding Officer for duty. S. O. 123, Department of the Columbia, September 15, 1879.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, OCTOBER 25, 1879.

ORIGINAL LECTURES.

CLINICAL LECTURE
ON DYSPNŒA AS A SYMPTOM OF INTRATHORACIC PRESSURE.

Delivered in Philadelphia Hospital, October 4, 1879,

BY EDWARD T. BRUEN, M.D.,
Physician to the Hospital, Lecturer on Pathology of the Urine in the University of Pennsylvania, etc.

GENTLEMEN,—The specimens I lay before you this morning were taken from the patient whose case we considered two weeks ago, and decided to be aneurism of the aorta.

In the week ensuing that clinic the paroxysms became so violent that great exhaustion followed, and his strength was rapidly wasted.

Last Wednesday, October 1, he experienced an unusually severe paroxysm. Atropia was used, as before, to stimulate respiration, but failed to relieve him. The inhalation of ether was tried, with the hope of relaxing the spasm of the bronchial tubes, but he did not rally as before, and died at the expiration of two hours, from asphyxia.

Examining the aorta, a globular tumor, as large as a goose-egg, arises from the upper portion of the right side of the ascending arch of the aorta. This tumor, by growing outwardly, gave rise to the prominence I demonstrated to you during life, but, as you will observe, this tumor did not compress any of the important structures within the chest. From the posterior aspect of the ascending arch another tumor, similar in size and shape, was found. The tumor extended backward until it touched the bodies of the vertebræ, pressing inward the trachea, and decidedly diminishing its calibre just above the point of the bronchial bifurcation. The tumor was also adherent to the right bronchial tube which leads to the inferior lobe, almost occluding its lumen. The union between the tissues of the two structures is so intimate that I cannot separate them. The inferior portion of the lower lobe of the right lung is collapsed and splenified; the remaining portion of the pulmonary tissue is emphysematous, completely covering the splenified area. Passing over the inferior surface of the lower tumor you can recognize the pneumogastric nerve, which was compressed between the tumor and the bodies of the vertebræ.

Let me at this point comment on the diagnosis as given last week, and on the specimens before us.

The collapse of the inferior lobe was not recognized during life, partly because of the emphysematous condition of the remainder of the lung, partly from the fact that the collapsed tissue was adherent by old pleuritic adhesions to the liver, and the convex surface of the upper portion of the organ favored its concealment.

It was owing to the apparent absence of this very lesion that I did not believe so much bronchial pressure as we have found could exist.

The constant dyspnœa, then, we must refer to the bronchial and tracheal pressure; but the sudden arrest of respiration in particular, and a portion of the dyspnœa, are to be referred, I believe, to the pressure which we discover in the pneumogastric nerve. The attacks of dyspnœa were always inaugurated by arrest of respiration, and only subsequently were the violent respiratory efforts noticed.

Let us look again at the tumors. We observe that they are very hard, solid, and, on opening the heart and introducing the finger into them, they are found almost filled with organized fibrine: so that but little blood could have entered them. You will recall that no thrill was noted, and but a comparatively feeble systolic murmur. The absence of these physical signs is now clear, since no blood could have entered the tumors.

The increase of murmur by pressure on the tumor is explained by the fact that such pressure diminished the calibre of the aorta. We have a familiar illustration of this point by the development of a murmur from the pressure of a stethoscope upon the femoral artery. I would suggest that this is a point to be observed in connection with the diagnosis of the state of the contents of aortic aneurisms.

If we had been able to satisfy ourselves that the tumor was already solidified, the operation of electrolysis would have been considered positively contra-indicated. For the futility of this operation in this case is evident, nature having accomplished the result for which we should have labored.

Indeed, I fear the use of electricity might have resulted in actual mischief, by disorganizing the clot already formed. If in a future case I shall discover a similar series of symptoms, I shall consider the evidence to indicate an aneurism filled more or less with an organized clot.

The interference with the lumen of the vessels at their origin from the aortic arch partially indicates the explanation of the femoral pulse antedating the radial.

The heart, you will note, is not hypertrophied, nor are the vessels or aorta atheromatous. The other viscera are normal. Had our patient survived the paroxysm, life would sooner or later have terminated through the rupture of the inferior aneurism into the bronchial tubes or trachea.

As a general principle which should regulate the consideration of the operation of electrolysis, I think we have a right to infer that symptoms of serious intrathoracic pressure contra-indicate the measure.

Case II.—Let us turn to the consideration of the patient whom I now introduce. You all notice that he, too, suffers marked dyspnœa, attended with stupor and whistling respiration. The dyspnœa is so intense that at present he cannot walk up- or down-stairs without becoming excessively short of breath. The supraclavicular regions are depressed on inspiration, in addition to the stridulous breathing; evidently some obstruction exists in the larynx to the entrance of air. We are supported in this view when we ask the patient to speak, and, while phonation can be performed, the result is a thick, low-pitched, imperfect articulation or expression of sound.

When we inquire into the onset of these symptoms, our patient refers them all to a cold taken six weeks ago (the six weeks prior to his admission to the hospital). With this cold he lost his voice, and has felt a choking sensation referred to a point behind the sternal notch; he has also some cough.

From these symptoms we are led at once to make a laryngoscopic examination, and we find that both vocal cords are much swollen, are red, and that the left vocal cord seems partially paralyzed; at all events, it imperfectly approximates itself to the other. At the same time the cords open and close freely, and there can be no question that an obstruction lower down the air-passages must exist to account for the dyspnœa present.

Let me read to you some points in the history of the case:

A. C., æt. 40, has a good family history; denies syphilis or the immoderate use of alcohol. He has always enjoyed excellent health, save only occasional attacks of rheumatism. He suffered much exposure while a member of the Army of the Potomac, and when making forced marches, at that time, he occasionally became short of breath. At the close of the war he resumed his trade as a painter.

In view of the symptoms detailed, and the history, let me ask the class for a suggestion as to the cause of pressure.

A member responds, "Cancer of the œsophagus."

It is true that cancers of the œsophagus are most frequent at the point of the bronchial bifurcation, and may cause analogous symptoms of pressure. But in the first place the onset of the symptoms present in this case is recent; there is no dysphagia, no pain, no cancerous cachexia; indeed, our patient is fairly nourished.

Can I elicit any evidence of pressure on the bronchial tubes? Percussion-resonance is high-pitched over the right side, especially at the base of the right lung, as compared with the left. On the other hand, the respiratory murmur is impaired over both lungs posteriorly, and on the left side, in addition, inspiration is attended by sonorous, sibilant, and a few small mucous râles. The respiration over the right bronchus, at the point of bifurcation, is whistling, much louder than normal. On the other hand, the respiratory murmur in the left bronchus is much more feeble than normal. These physical signs indicate pressure on the bronchial tubes, and, when we recall the condition of the inferior lobes of the lung in the specimen you have just seen, does it not indicate a similar state of affairs in this case?

We find in the groin several enlarged glands, and elsewhere a few can be felt. I have read of cases in which symptoms similar to those exhibited by our patient could be traced to an enlargement of the bronchial and mediastinal glands, causing pressure. But we have in this case no syphilis, none of the forms of leucocythæmia; and therefore, while recognizing the suggestion as a possible explanation, I decide that it is improbable.

A gentleman desires an examination of the aorta. Let me comply by stating that a systolic murmur can be heard over the base of the heart and at the ensiform cartilage transmitted into the carotids, but diminished as a murmur over the arch of the aorta, and becoming merely a harsh prolongation of the first sound, at the same time distinctly audible. There is no mitral lesion; no abnormal dulness over the aortic arch; no pulsation; no thrill. The cardiac dulness extends to the right a little beyond the right costo-sternal articulations, but dulness to the left is within a vertical line drawn from the nipple. The apex-beat is felt in the sixth interspace a half-inch inside the nipple-line; there is epigastric pulsation, evidently cardiac. The heart must therefore be considered as displaced, but not much enlarged. The radial pulses, however, you will note, precede the femoral,—just the reverse of the former case, and indicating aneurism at a point below the descending arch of the aorta.

Posteriorly at the left side, just above the angle of the scapula, can be heard a murmur, also systolic, and even more distinct than the murmur at the base. It is low-pitched and blowing, transmitted a short distance up and down the aorta, but not heard in the femorals.

Let us now sum up the points we have elicited for or against aneurism of the descending thoracic aorta at the bifurcation of the bronchial tubes.

There is no pain. Pain may be induced by the pressure of the tumor on the intercostal nerves, and also on the vertebral column itself, for the pressure may be so great as to occasion necrosis. Our patient complains of but slight pain. In a case in Dr. Pepper's ward, a week ago, a diagnosis of aneurism of the descending aorta was made by him, in which the symptom of pain was absent, and the post-mortem showed extensive caries of the vertebræ. We have tested this man without response, both by means of the electrical test of Rosenthal,—which acts by arousing sensations of pain when the electricity is passed over diseased bone,—and also by means of the hot and cold sponges passed over the spine, designed to act on the nerves which issue from the spinal foraminæ; these nerves are hypersensitive in caries of the spine.

There is no dysphagia, but I have seen aneurism at this point compress the bronchial tubes and yet not affect the œsophagus. There is no thrill, and the murmur heard is not loud, although distinct. There is no specific history, nor the habit of alcoholic indulgence.

The presence of a murmur, the radial pulse antedating the femoral, the cardiac displacement, the presence of symptoms of bronchial compression, with the absence of all other modes of explanation of the symptoms, are the evidences of the aneurism. I think the life of exposure in the army, the forced marches, are not to be overlooked, and I distrust his statements about specific disease and alcoholism.

Favorable points for the diagnosis are as follows: there is relief from the dyspnœa by change of position; sometimes the ease is greater in the upright, sometimes in the recumbent posture.

A portion of the dyspnœa is, doubtless, laryngeal, due to the causes I have described, but I believe that the symptom is due, in the main, to aneurism of the descending arch of the aorta, with pressure on the bronchi. You will note that in this case of purely bronchial pressure the symptoms in the last case, which I referred to pressure on the pneumogastric nerve, are absent.

The prognosis is grave. In a case you saw about two weeks ago, rupture took place into the bronchial tube, attended by hæmoptysis, four weeks before the death of the patient. Very often, at first, but a small rupture occurs, and its enlargement may take place so gradually that some time may elapse before fatal hemorrhages ensue.

The danger of rupture, then, of similar aneurisms of the aorta causes our liveliest apprehension, and yet the patient may survive for several years before this accident occurs. The treatment is simple. It involves absolute rest, a diet from which liquids should be excluded as far as possible, and the administration of the iodide of potassium on the plan of Dr. Balfour. This gentleman says that no other salt of potassium will answer so well. He advises large doses, as much as ninety grains per diem. He claims that it produces diminished cardiac force and diminished blood-pressure, and decreases the size of the sac by thickening of its walls, mainly the adventitia.

Dr. Balfour states that he has cured some cases by this means alone, without the recumbent position. We shall order our patient large doses of iodide of potassium, to secure an increase of the laryngeal secretions, as well as for its effect on the aneurism itself. I may say that by counter-irritating the tissues below the external laryngeal region by blisters I have secured a great amelioration of the laryngeal symptoms. In addition to this, the occasional application of nitrate of silver has been practised; also the inhalation of a solution of compound tincture of benzoin.

I trust that the pictures of these two cases may not fade from your minds, and that you will always recall them when you meet with cases of dyspnœa from intra-thoracic pressure.

ORIGINAL COMMUNICATIONS.

A CASE OF DOUBLE VAGINA AND CERVIX UTERI.

BY WM. R. D. BLACKWOOD, M.D.,

ON the 10th of October, 1878, I was consulted by Miss ——, aged 22, with the appearance of robust health, for relief from a distressing headache, frontal in situation, moderate in intensity in the early morning, with increasing severity towards evening, at which time it usually disappeared, although occasionally the malady would continue far into the night, with the effect of banishing sleep till nearly break of day. In addition, she endured pain of varying force, indefinitely ascribed to the left hypogastric region. I say indefinitely, because it rarely for an hour at a time was constant at any one definite point. After being under my charge for some weeks, it became apparent that the difficulty was most probably located in or near the left ovary, which was more than usually tender upon pressure, and more than ordinarily movable through manipulation, although, left to itself, no tendency to downward displacement existed, as might, under the circumstances, have been expected.

Upon commencing a digital vaginal investigation, the first noticeable point was the unusually firm hymen, with, as proved by ocular demonstration, two openings therein. By careful, slowly-made, and gentle effort the left opening was dilated sufficiently to permit the finger to reach the cervix uteri, which at once gave evidence of abnormal development, being sharply latero-flexed. Conjoined manipulation by the rectum proved that no displacement of the body of the uterus was present, and this led to a more careful procedure, the result of which developed the fact that each of the openings in the hymen entered vaginæ of their own. So far the case was one of double vagina. The time and pain prevented further investigation until next day, when a thorough dilatation of both cavities was made and a speculum examination begun. Each vagina was such as is found in the virgin, moderately capacious, and presenting no abnormal features. The cervix on the right side presented at an angle of about ten degrees, bending towards the right, and that of the left side made an angle of probably twenty degrees, pointing towards the left. Each cervix was normal in shape, size, and general characteristics, both canals patulous to the sound, but only so as far as the os internum, beyond which, passage at this time was impossible with any justifiable force. Conjoined manipulation by both the rectal and abdominal parietes showed the uterus to be single, with double cervix. The body of the uterus was of the usual size, and was freely movable and not sensitive to pressure. No uterine catarrh existed; the organ was evidently sound. At the third examination, which occurred after an interval of three days, the right cervical canal was dilated instrumentally, and the sound passed to the fundus, the length being two and a half inches. The other cervix gave more trouble, but through careful and gentle manipulation the sound entered to a distance of two and three-quarter inches, the extra distance being clearly attributable to the lengthening of the cervix. There was a palpable difference in the feeling of the two sides of the cavity of the uterus after passing the internal os, a distinct elasticity or softness being experienced in the central line, the reason for which became apparent on introducing a sound into each cavity simultaneously. The uterus was divided into two cavities by a vertical septum, which is undoubtedly complete, no manœuvre allowing the sounds to touch each other through any discoverable opening. The case was thus shown to be one of *uterus septus*, the septum being prolonged to the ostium vaginæ. All other organs were apparently normal in position and action. It was determined to divide the vaginal septum. To obviate troublesome hemorrhage, the elastic ligature was resorted to. About one inch of tissue was included in the loop, which cut its way out in four days without much discomfort. The next time two inches were similarly treated, and the section was made as before in four days, the ligature requiring tightening on the second day. A third application severed another inch, leaving about one inch remaining between the right and the left cervix. The idea of severing the intra-uterine septum also was entertained, but because of the thickness of the triangular mass of tissue between the two os uteri the operation was postponed, and nothing in that direction has yet been attempted.

In the general examination of the case I had elicited the fact that the pain which accompanied menstruation and was referred to the left side *was intensified at every second* *menstrual period*, and, although in every other respect no discomfort was experienced, there seemed here to be an implication of the left ovary; in fact, it was from this idea that the physical examination during the menstrual flow was suggested. The period in progress was the one in which the pain was *not* increased during the flow. The first point which interested me was, that the discomfort of the left side was less than it had been before menstruation set in, and that pressure was better borne, yet on the *right* side (over the ovary) firm pressure produced uneasiness to a greater degree than before the period. The thought occurred to me that possibly the congestion incident to ovulation might be confined to one only of the ovaries, and if such was the case, what effect, if any, would this have in the peculiar condition of the uterus? On very careful speculum examination, the fact became apparent *that the flow was entirely confined to the right side of the uterus.* That every possible source of error should be excluded, I prolonged the examination for half an hour, after which time other engagements prevented further observation till the next day. On the succeeding afternoon I repeated the investigation, with precisely the same result, and, as the flow was much less abundant, the difficulty of keeping the parts clean was not so great as before. The small portion of the vaginal septum remaining permitted the plugging of the left Douglas cul-de-sac readily, and after retaining a tampon of absorbent cotton therein for half an hour not a particle of blood had been extruded from the uterine cavity of that side. Similar results were obtained on the next day, the last of that period. For a day or two the lessened pain in the left side continued; it then recurred, however, and persisted until the next term ensued, when the trouble was intensified, as was habitual. Nothing of a surgical nature had been done in the interval, the only attention having been for the relief of the headache, which persisted, however, in spite of all that was done. On the appearance of the catamenia the specular examination was renewed. *The flow was now from the left cervix alone.* As before, care was had to exclude possible error, and during the three days ensuing the only difference observable was that the amount of discharge was less than had been observed from the right side, and some little pain was present during the first twenty-four hours. The present month has been the thirteenth since my inquiries began, and in these thirteen periods the regular alternation has been maintained, with a single exception,—that in August, when the flow should have been *right-sided*, it was from the *left*, as in the month before.

Remarks.—The physiology of menstruation is not by any means thoroughly understood. Wide differences of opinion are held by eminent authorities on this subject, and it will doubtless require much study and research to unravel the hidden secrets of this exceedingly interesting branch of medical learning, and anything bearing upon the subject is therefore of right the property of the profession at large. The difficulty in accounting for congestion on one side only of a uterus divided simply by a septum of probably a quarter of an inch in thickness is hard to meet, and no explanation is attempted. That the excitation of the body of the uterus in this instance *is* thus confined is beyond question in my mind, for I cannot conceive of the hyperæmia existing in each lateral half without the outpour of blood from each section. What the arterial and venous distribution is cannot, of course, be here determined, but it must certainly be abnormal, or the septum must be of such a nature as to shut off communication between the sides by extending through the tissue of the organ to the peritoneal investment. Were the substance of the uterus bisected by a cartilaginous diaphragm, the enigma would at once be solved. If marriage in the case ensues (and I hope it will), and pregnancy occurs, the result will be very interesting; and it was largely from this line of probability that the portion of vaginal septum was allowed to remain, the idea suggesting itself that double pregnancy might take place at different periods. For a long time the headache and abdominal pain were apparently beyond relief; in fact, the latter was notably aggravated by the excitement kept up by frequently repeated examinations. Finally, however, electricity achieved an almost complete victory, and, from having to undergo daily treatment, the patient now often is for a fortnight free from trouble. It is probable that complete immunity will never be attained, owing to the physical peculiarities involved; but at any rate she is comparatively free from what had long been an inseparable companion.

246 North Twentieth Street, Philadelphia.

A NEW FUNCTION OF THE BRAIN —PRELIMINARY NOTE.

BY ISAAC OTT, M.D., AND G. B. WOOD FIELD, STUD. MED.

THE influence of the nervous system on the peristaltic movements of the intestinal canal has been the subject of several researches. The activity of the central nervous system to excite peristalsis has been noted by several observers, but the power of the brain to inhibit the intestinal movements has not been stated in any work accessible to us. That the splanchnics inhibit the intestinal movements was discovered by Pflüger,[*] and confirmed by several observers. Goth[†] has noted in the frog, after extirpation of the central nervous system, that the myenteric ganglia are more excitable. Wilson Philip[‡] has also remarked that the movements of the intestines continue a long time after the removal of the cerebro-spinal axis.

Nasse[§] has seen stimulation of the dorsal segment of the spinal cord arrest the intestinal movements. One[‖] of us, in another place, has proved that in the optic thalami reside centres inhibiting the reflex activity of both internal and external sphincter ani. This inhibition was found to be in constant activity. Now if, in an etherized cat, a section of the brain is made behind the thalami optici, it will be found that the duodenum soon commences to make an active peristaltic movement. Peristaltic movements in the carnivora, as the cat and the dog, are normally hardly anything at all. That this active peristalsis was not due to an excitation of centres inciting peristalsis is proved by a series of experiments on animals whose intestinal movements are active. Rabbits were etherized, and insulated electrodes thrust through trephined openings into the optic thalami. If now the peristalsis is noted of the duodenum, it will be seen to stop in diastole. So the inference follows that in the optic thalami are centres inhibiting not only the reflex activity of the sphincters ani, but also the activity of the small intestines. According to this view, the peristaltic movements are under the domination of two forces,—one exciting, and derived from the ganglia seated in the walls of the intestines and the ganglia of the central nervous system, the other inhibiting, seated in the thalami optici, and sending its impulses through the splanchnics.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

SERVICE OF PROF. LOUIS A. DUHRING, M.D.

SEBORRHŒA OF THE SCALP AND FACE.

THE patient is a married woman, 37 years of age, of fair general health. The present eruption first showed itself upon the scalp five years ago, appearing upon the face a little later. It has been gradually growing worse and worse ever since, but especially during the past few months. The disease has not progressed steadily, but by occasional exacerbations occurring every month or so with intervals, during which it seems to disappear almost entirely from the face, while on the scalp there always remains a slight degree of scaliness. The hair has always been very dry; there is no tendency to oiliness in the scalp. The face, on the other hand, has always been more or less oily, and seems to attract dust, so that it always presents a soiled appearance. If the patient wipes her face with her handkerchief, this becomes quite greasy. The face, moreover, as well as the scalp, is covered with greasy crusts and scales over the seat of the disease. Under ordinary circumstances the disease in the scalp manifests itself in the form of dry, branny scales, without any tendency to moisture or weeping. The skin here, however, is quite irritable, and now and then the irritation from rough combing alone is sufficient to excite an acute inflammatory action accompanied by a sticky, serous discharge. The scalp has always itched slightly, while on the face this symptom is not complained of, the sensation here being rather of a burning, smarting character. During the past few weeks the eruption has been rapidly growing worse. She has never had any other disease of the skin; her appetite is not very good, and the bowels tend to constipation; she suffers somewhat from indigestion, indicated chiefly by flatulence. When she eats food which disagrees with her, as salt fish, ham, etc., the face grows worse at once. She is decidedly nervous.

Dr. Duhring said he had brought this case before the class not because it was rare or even uncommon; on the contrary, it is a mild but typical case, and worthy of study on that account, in order that the essential features of the disease may become familiar; for it is oftentimes not easy to distinguish between this and other affections of similar appearance. On examination we perceive a patch of slightly-reddened and infiltrated skin on each side of the cheek extending towards and including the alæ nasi, covered with somewhat adherent greasy scales, which, when detached, leave a slightly oily surface beneath, thickly studded with the patulous openings of the sebaceous follicles. Proceeding to the examination of the scalp, we find this covered with minute branny scales, decidedly more abundant over the vertex. If we examine these scales more closely, we shall observe that while many are fine, dry, powdery, and loose, others are somewhat larger, unctuous or greasy, and tend to adhere to the integument underneath. When detached, these scales leave a reddish, glazed surface underneath. While the vertex is entirely covered with scales, we note that elsewhere over the scalp the eruption appears in scattered coin-sized patches. Seborrhœa does not everywhere present exactly the same features. We should not, for instance, expect to find the affection assuming the same appearance on the scalp, the face, and the shoulders. The normal size, number, and arrangement of the sebaceous glands are different in these several localities, and the disease naturally varies also. The character of the product of disease likewise varies in different cases. In some cases the sebum is dried and inspissated, while the epithelial element is prominent, and here we have the variety of seborrhœa known as seborrhœa sicca. In other instances the sebaceous product poured out is abnormally fluid, and we have that variety of the affection which is known as seborrhœa oleosa. Both of these varieties, moreover, may coexist in any given case: we may have, for example, seborrhœa sicca on the scalp while at the same time we have seborrhœa oleosa on the face.

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[*] Ueber das Hemmungs-Nervensystem der Gedärme. Berlin, 1857.

[†] Pflüger's Archiv, 1872, S. 616.

[‡] Souget's Nervensystem, Leipsic, 1847.

[§] Journal of Physiology, vol. ii. part 1, Cambridge, 1879.

[‖] Beiträge zur Physiologie der Darmbewegung. Leipsic, 1866.

The local varieties should also be studied carefully, viz., seborrhœa capitis, occurring on the scalp; seborrhœa faciei, on the nose and cheeks; seborrhœa corporis, on the body, as a rule either between the scapulæ or over the sternum. Each of these possesses certain peculiarities which should be noted. In speaking of the varieties of seborrhœa, S. neonatorum must be mentioned. This is in fact rather a physiological than a pathological condition, and under ordinary circumstances tends to disappear within a few weeks after birth. Occasionally, however, it may persist for some months, but it is readily removed by appropriate treatment.

In connection with seborrhœa we are apt to meet with other affections of the sebaceous glandular system, as milium, molluscum, and comedo. As an instance of this let us observe this second case which I now bring before you. Here we have a young, unmarried woman, in rather delicate health, who presents precisely the same appearances upon the scalp as in the case of our first patient, only to a more extensive degree. But in addition to the seborrhœa sicca capitis we observe seborrhœa faciei, involving both temples, while scattered over the temples, sides of the neck, chest, and scapular region we see a large number of pin-head sized, hard, pearly nodules, which are nothing more than closed sebaceous ducts choked up with their contents, and forming the condition known as milium. Here and there, moreover, we see larger, small split-pea sized, more prominent, softer lesions, with a central depressed punctum, constituting imperfect examples of molluscum sebaceum. In addition, we see also a large number of plugged-up sebaceous glands with their black puncta, —comedones, forming a very good demonstration of the coexistence of four distinct diseases of the sebaceous glands.

With regard to the etiology of seborrhœa, this affection may attack all ages, both sexes, and every temperament. It is somewhat commoner, however, between the ages of sixteen and thirty, and in blondes. When the disease occurs in brunettes, it is more apt to assume the oily form, as the glands are more active in persons of this complexion. While seborrhœa is often found in the subjects of anæmia and chlorosis, yet we quite frequently find it in apparently perfectly healthy persons. Very often the digestive system, and particularly the alimentary canal, are at fault. In the present case, our patient has admitted that the ingestion of such articles as salt meats causes an exacerbation of the disease.

The pathology of seborrhœa may be inferred from its name: it is essentially a disease of the sebaceous glands, accompanied by hyperæmia and an increased secretion of more or less altered sebum. The course of the disease is sometimes acute, but far more frequently chronic, dragging along for years,—sometimes better and sometimes worse. It is ordinarily better in summer and worse in winter.

The diagnosis of seborrhœa is occasionally, as has been said, a matter of some difficulty. It is to be distinguished from eczema squamosum, as this occurs upon the scalp, and from psoriasis affecting the same locality. The ordinarily greasy character of the scales, with the pale reddish, oily or glazed surface, with gaping gland ducts displayed when the scales are removed, together with the history of continual dryness without any discharge, will suffice to distinguish seborrhœa capitis from the two dry and scaly eruptions mentioned. When seborrhœa occurs upon the face it is to be distinguished from lupus erythematosus and eczema erythematosum, and here, especially as to the former disease, the diagnosis is often puzzling. It must be kept in mind, however, that while on the one hand there is merely a general and intense hyperæmia in eczema, we have on the other hand in lupus erythematosus a new cell infiltration, it may be very slight, accompanied generally by marked involvement of the glands, and usually followed eventually by atrophic scarring. Seborrhœa faciei often occupies as it were a middle place between these diseases, the glands indeed being seriously involved, but no new cell infiltration taking place and no scarring following. On the chest and back seborrhœa corporis is to be distinguished from tinea circinata, from psoriasis, and from eczema. But the same features—namely, the involvement of the glands and the more or less greasy or oleaginous character of the product of disease—which are noted in seborrhœa of the scalp and face serve likewise here to differentiate the disease in question from the other affections mentioned.

The treatment of seborrhœa, speaking in general terms, is both internal and external. The internal treatment will, of course, depend upon the nature of the individual case and the general condition of the patient. Ordinarily, iron, arsenic, cod-liver oil, and similar remedies are called for. Sulphur and the sulphides in small doses long continued have also recently been prescribed with benefit. Both of these cases will require a prolonged course of treatment, in which iron and small doses of arsenic will in all probability play the most prominent part. In perhaps seven or eight cases out of ten the local treatment will prove of more importance than the constitutional. The sort of local treatment to be employed depends somewhat upon the locality of the disease. If it is in the scalp, the first thing to do is to get rid of the scales. Often it is necessary to soak the scalp with olive oil in order to soften the crusts and scales before we are able to wash these out. In the present instances this is not necessary, but we may apply the soap directly. The best kind of soap for washing the scalp in cases of seborrhœa is sapo viridis, a strong potash soap, used either alone or dissolved in alcohol, as in the solution which we know as *spiritus saponis alkalinus*, and which is composed of two parts of the soap to one part of stronger alcohol, and perfumed. When the patient is a woman, do not have the hair cut; do not disfigure her; it is not necessary to the treatment of the disease, for by using a little perseverance we can always remove the scales in any case, and once cut, the hair will probably never assume its former beauty or grow again to its original length. Tell your patient to make a thick lather with the soap or the spirit mixed with a small quantity of hot water, and with this shampoo the scalp thoroughly. Then let the scalp be completely cleansed with fresh warm water, and, after drying, apply some ointment. It is always necessary to employ an oleaginous application following the use of the soap; otherwise we should have a disagreeable contraction of the skin. Never use soap in this affection without following it with some ointment or oil. One of the best ointments to be used in seborrhœa is the preparation of petroleum known as cosmoline or vaseline. To this may be added with advantage some stimulant, as the red oxide of mercury, five to ten grains to the ounce; sulphur, a drachm to the ounce; and tar, of the same strength. In the present cases we shall use—

℞ Ung. hydrarg. nitrat., ʒij;
Vaselini, ʒij;
Adipis benzoat., ʒiv;
Olei amygdalæ amaræ, gtt. iij.—M.

In using an ointment care should be taken to separate the hairs in "parts," so that the scalp is exposed. The ointment is then to be applied directly to the skin and rubbed in diligently. It is not the amount of ointment employed, but the degree of thoroughness with which it is worked into the skin, which determines the benefit ensuing. An ointment of tannic acid, in the strength of half a drachm to a drachm to the ounce, applied once or twice daily, may be used with advantage in some cases; Dr. Bulkley, of New York, speaks well of it. Sulphur also is a valuable external application in seborrhœa; it may be prescribed combined with vaseline in varying proportions from fifteen grains to two drachms in the ounce. When for any reason it is undesirable to employ ointments, there are a number of oleaginous applications which may be prescribed with advantage. Such, for instance, is the following mixture, which can frequently be prescribed when ointments are inadmissible:

℞ Acidi carbolici, ♏x ad xx;
Alcoholis, f℥i;
Ol. ricini, fʒss ad ʒi.—M.

Or the following, which is a somewhat more elegant preparation:

℞ Tinct. cantharidis, fʒij;
Tinct. capsici,
Ol. ricini, āā fʒiij;
Alcoholis, f℥ijss;
Sp. rosmarini, q.s. ad f℥iv.—M.

But, whatever preparation is employed, due care and perseverance must be used in its application, or it will be of no avail.

TRANSLATIONS.

A Peculiar Form of Micrococcus in Gonorrhœa.—Dr. Albert Neisser (*Cbl. f. Med.*, 1879, No. 28) has detected, with the aid of very high powers, a peculiar organism in the gonorrhœal discharge, which is at first round, later, a long, oval body, which separates in the middle and divides by fissure, subdividing again at right angles so as to form a sarcina-like group. Twenty or thirty of these bodies are often united in a heap, covered with a sort of mucous envelope. Their favorite seat is upon the surface of the pus-corpuscles.

Physiological and Therapeutical Characters of the Adonis Vernalis.—Botkin (*Cbl. f. Med.*, 1879, p. 493; from *Petersb. Med. Wochens.*) asserts that the infusion of this plant exerts a similar action to that of digitalis, regulating the cardiac compensation in some forms of its disturbance, even when digitalis fails.

Coincidence of Tabes Dorsalis and Aortic Insufficiency.—Berger and Rosenbach (*Berliner Klin. Wochens.*, 1879, p. 402) bring forward seven cases of well-marked tabes accompanied by extreme insufficiency of the aortic valves. While saying that they are far from desiring to draw positive conclusions from their cases, Berger and Rosenbach call attention to the coincidence of these affections, and ask that further observations may be made, with the view of ascertaining whether or not any real connection may exist between the two affections.

Syphilis of the Central Nervous System.—At a recent meeting of the Königsberg Association for Scientific Medicine (*Berliner Klin. Wochens.*, 1879, p. 407), Dr. Naunyn spoke upon this subject. Out of sixty cases to which he referred, where the history of the patients had been accurately noted, eight had been examined post mortem. No exostoses (which during life are so frequently set down as the cause of brain-symptoms in syphilis) were found. On the other hand, gummata in the brain substance, subdural gummata, softening as a sequela of endarteriïtis, with or without consecutive thrombosis, and simple softening, were ascertained to be present. Brain syphilis frequently belongs to the earlier manifestations of the disease. Naunyn has frequently seen it within the first year. Heubner's assertion, that intellectual and particularly active men were peculiarly liable to this form of disease, does not appear to be borne out by Naunyn's experience. In general, it may be said that young persons are particularly liable to brain syphilis. That there are any specific peculiarities about the disease, excepting the paralysis of the ocular muscles and pain in the head, Naunyn cannot admit. The only characteristic point is that the usual symptoms occur in the young instead of the old. An important diagnostic point is the absence of symptoms pointing to compression (*stauungspapilla*, etc.). The usual symptoms are those pointing to a centre of disease; hemiplegia was common in Naunyn's cases, together with paralysis of the ocular muscles, in many instances, which, as is known, rarely occurs in ordinary hemiplegia. Epilepsy is not uncommon. Charcot's assertion that hemi-epilepsy is particularly characteristic of syphilis is not borne out by Naunyn's experience. He has *never* seen a case. Paraplegia occurred in eight cases out of the sixty; once the group of symptoms pointed to a hemiplegia spinalis. The prognosis of brain syphilis is, according to Naunyn, always doubtful. The number of cases which entirely recover is very small. In any case, however, the prognosis is more favorable than when the same symptoms are due to any other cause. Naunyn uses mercurial inunctions, and only employs iodide of potassium occasionally.

DIURETIC EFFECT OF COMPRESSED AIR WHEN USED IN PURULENT PLEURITIC EXUDATIONS.—Kelemen (*Pester Chir. Med. Presse*, 1879; from *Berl. Klin. Wochens.*, 1879, p. 404), having occasion to use compressed air in a case of pleuritic exudation, observed an increase in the quantity of the patient's urine while under this treatment. The patient had been passing 1291 cm. daily, but this amount gradually increased to about 2600 cm. This explains Waldenburg's experience with this treatment, who observed increase of cardiac action, increase of blood in the aortic system, emptying of the smaller circulatory system, with greater quantity of blood flowing in the capillaries of the larger circle. The diuretic influence of compressed air, when used in heart disease, has already received some attention at the hands of Rosenstein.

HEART-SOUNDS AUDIBLE AT A DISTANCE.—Ebstein (*Berl. Klin. Wochenschr.*; from *Deutsches Archiv für Klin. Med.*, Bd. xxii. Heft 2) has collected a number of cases in which the sounds of the heart in cardiac and aortic disease could be heard at a distance of 0.5 to 1.0 metre (20 to 40 inches), or more. Both pericardial as well as systolic and diastolic endocardial murmurs are sometimes heard considerable distances. Stenosis of the aortic orifice, particularly in cases of high grade where there is calcareous degeneration of the valves, is most apt to give rise to loud sounds. No cases of bicuspid valvular disease accompanied by a loud murmur are on record. In one case of severe aortic stenosis, combined with insufficiency and mitral stenosis, the murmur was heard seven feet off. Occasionally the sounds of the heart can be heard by the patient himself, and this phenomenon may be transitory.

INFLUENCE OF SYPHILIS IN INJURIES AND WOUNDS.—Verneuil (*Cbl. f. Chirurgie*, 1879, p. 575; from *Rev. Mensuel*) gives some new facts bearing upon his favorite subject. They are as follows: 1. Amputation of thigh in a subject of syphilis 27 years of age. Three days later, papular syphiloderm. On the 19th day, stubborn specific sore in the wound. 2. Man 30 years of age; latent syphilis; simple fracture of tibia. No consolidation. Dieffenbach's operation followed by profuse suppuration; still no consolidation. Two months later, syphiloderm with iritis. Cure under antisyphilitic treatment; consolidation of the fracture in a little less than a month. 3. Stricture of the rectum in a syphilitic individual 40 years of age; vertical division; development of a rectal syphiloma, together with a pustular syphiloderm. 4. Hydatid cyst of the femoral muscles in a girl of 20. Incision; drainage; exfoliation of the cyst. Two years later, development of a syphiloma in the scar. Cure with mercury and iodine. 5 and 6. Two other cases of syphilis following wounds. 7. Woman 41 years of age; old, supposed non-specific onychia; cauterized. Rapid development of subcutaneous gummata; aphasia; hemiplegia; death. Verneuil considers the slight trauma in this case the cause of death. Düsterhoff and Volkmann deny the connection between syphilis and trauma, and were it not for Verneuil's high reputation his cases would carry still less weight than they do with surgeons. He, however, is a firm believer in his theory, and even believes in a connection between rheumatism and trauma.

TUBERCULOSIS OF THE IRIS.—At a recent meeting of the Société de Chirurgie (*Gaz. Hebdom. des Sci. Méd. de Montpellier*, 1879, v. ii. p. 44) Dr. Parinaud presented notes of the case of a child 12 years of age, born of tuberculous parents, who had complained for five months of feeble sight. Examination of the globe which was free from pain showed a peculiar condition of the iris, which displayed a number of tumors upon its anterior aspect, some near the pupillary border, others at the periphery. They were yellowish in color, one of them showing small vessels upon its surface, together with numerous small projections; and they were four or five times the size of a pin's head, projecting into the anterior chamber. Vision was much interfered with; the globus oculi was hard and deeply congested. Ophthalmoscopic examination failed to show any involvement of the deeper structures of the eye, although this alone would account for the feebleness of vision. In the discussion which followed the reading of this paper various opinions were expressed with regard to the necessity of removal of the eyeball. Dr. Auger favored the removal of the eye as a useless and dangerous organ which might become a focus of infection for the entire system, like organs which are the seat of malignant tumors. Dr. Verneuil protested against such opinions as German, and blamed the trans-Rhenish surgeons for assimilating tubercle with malignant tumors. Messrs. Després and Trélat agreed with Verneuil, while Giraud-Teulon was inclined to connect tubercle with malignant tumors. He counselled enucleation. M. Tillaux also suggested operative interference, only delaying until the condition of the eye became aggravated, or until sympathetic trouble appeared.

INNERVATION OF THE HEART.—M. François Frank (*Gazette Hebdomadaire de Méd. et de Chirurgie*) states in a *résumé* of our recent knowledge on this subject that the heart enjoys an activity independent of the central nervous apparatus, its automatic action arising from the ganglionic apparatus which it contains. These ganglia are divided into auto-motors which incite the diastolic movement, and moderators which command the systole. In the normal condition, the heart is also under the influence of the central nervous apparatus,—an influence transmitted by two orders of nerves, functionally distinct: accelerators belonging to the sympathetic, moderators represented by the pneumogastric. As to their termination in the heart, these nerves are intimately connected with the parietal ganglia. M. Frank gives a detailed *résumé* of the origin and action of these nerves which is highly interesting, but of which our want of space prevents the insertion.

HÆMATURIA DUE TO QUININE.—According to Dr. Georges Karamitsas, of Athens (*Bull. Gén. de Thérap.*, v. ii., 1879, p. 149), quinine may provoke hæmospherinuria, often accompanied by an access of fever quite independent of hæmaturic malaria. This condition may be brought about by small doses of the drug, which is not only not indicated in those having this predisposition, but is harmful and may even be dangerous. When hæmaturia is observed to follow the ingestion of quinine, this should on no account be administered.

DIAPHRAGMATIC HERNIA.—Bardenheuer (*Cbl. f. Med.*, 1879, p. 526; from *Berliner Klin. Wochensch.*) gives the case of a man 32 years of age, who was shot through the left breast. Hæmoptysis followed, but the wound healed within four weeks; subsequently cramps in the pelvis, with digestive disturbance, occurred from time to time. Seven years later ileus suddenly appeared, for which laparotomy was performed; the strangulated portion of the intestine not being found, an artificial anus was made in the ascending colon. Two days later, the patient died of septic peritonitis. Examination showed old bullet-wounds cicatrized about the edges in the diaphragm, in which a portion of the omentum had been squeezed. Together with this, there was a stricture of the left flexure of the colon.

SUPPOSITORIES OF TARTAR EMETIC IN CEREBRAL TROUBLES.—Dauvergne (*père*) writes to the *Bulletin Général de Thérapeutique* (1879, p. 176) recommending a suppository composed of 1.6 grains of tartrate of antimony, introduced night and morning into the rectum recently emptied by means of an enema. This suppository causes a powerful divulsion into the mesenteric circulatory system, and thus relieves cerebral congestion to a marked degree. Of course this treatment need not exclude the usual revulsives,—leeches to the nape of the neck, ice to the head, calomel in repeated doses.

IPECAC AS A HÆMOSTATIC.—Pécholier (*Jour. des Sci. Méd.*, 1879, p. 513; from *Bull. Gén. de Thérap.*) speaks of the singular property possessed by ipecac of chasing, so to speak, the blood from the lungs. That this is not due to the vomitive action is probable from the fact that tartar emetic does not seem to act in the same manner. The pulmonary anæmia is due, according to Pécholier, to a special action of the ipecac quite distinct from its nauseating or vomitive properties. The dose given (ʒi) is not, strictly speaking, a vomitive dose, and even when vomiting is produced, a certain amount of the drug enters the general circulation. Pècholier's favorite prescription is as follows:

℞ Ipecacuanhæ contus., ʒiss;
Aquæ bulliente, f℥iv.

Make an infusion; filter; add syrupi acaciæ f℥i. Give a tablespoonful every hour or two.

The first dose may cause vomiting, but this soon ceases, and, indeed, may be prevented by the addition of a few drops of laudanum. The absorption of the emetic being thus rendered easier, pulmonary anæmia is rapidly and surely produced.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, OCTOBER 25, 1879.

EDITORIAL.

MEDICAL EDUCATION.

FOR some years this journal has consistently and urgently pleaded the necessity of reform in the American methods of medical education. For a time the case seemed hopeless, but by and by, under the pressure of a public opinion which grew almost as rapidly as Jonah's gourd, the changes in the curricula of the medical schools began to betray an uneasiness on the part of the most stolid faculties. Then the Universities of Pennsylvania and of Michigan essayed the experiment that had already been tried at Harvard. With the result at the University of Michigan, so far as this year is concerned, we are not familiar, but at the University of Pennsylvania the pecuniary success of the new plan is assured. A class of nearly four hundred students, yielding a revenue almost one-third larger than that received by the school previous to its change of plan, marks the present session. As more than one-third of the whole present class is composed of first-year men, and as the number of these medical beginners is about ten per cent. greater than last year, the success of the future, as well as of the present, may be considered as determined.

Of all the medical schools in the country, those which have done the most injury to the profession and to the people of these United States are to be found in New York City. Here in Philadelphia we have wrought evil sufficiently, but New York has in this, as in so many other things, exceeded us. Until very recently there was no apparent prospect of a change in the existent status of the medical colleges of our rival city. But a few days since we were delighted by a circular from Bellevue Medical College, announcing that after the present year a preliminary examination and attendance upon three graded courses of lectures, with annual examinations, would be required of candidates for its diploma. We congratulate the trustees and the faculty of the college most heartily upon this sudden transformation. We hail it not merely as a good deed done, but as an indication of the continuous growth of public opinion, and as an omen of future progress.

It is certainly becoming more and more apparent that the school which desires to be considered *even respectable* must adopt the new methods. How the College of Physicians of New York — the old, the aristocratic — can endure to see itself looked down upon by its younger colleague, and to feel that the profession universally recognizes its shame, it is hard for us to understand. Certainly, if the faculty be not influenced by these things, the alumni must be, and the agitation among them must eventually be felt in high quarters. We opine that if Bellevue be true to itself, its promises, and the great step it has taken, not only will its own direct power and influence increase rapidly, but it will force the College of Physicians and Surgeons to follow its lead.

Public opinion is already reaching the point that the reputation of medical men who are connected with schools of the old style is beginning to be injured (at least, in the profession) instead of being increased by the connection. In time this loss of prestige will become so great that in very self-defence men of eminence will shrink from belonging to an inferior school, even if a large pecuniary reward is to be reaped by the dishonor.

If there be one man more than another that the profession of this country delights to honor, it is the venerable surgeon of this city. The distinction of having led into the paths of reform and progress the great medical school whose success has depended more upon him than upon any other man, would be a crown most befitting to a life so replete with well-earned honors and rewards. Will he leave his alma mater with the feeling, which must be in every breast, though unacknowledged, that it is sinking down in the grade of educational institutions? or, will he put it, where it ought to be, in the foremost rank of the medical schools of the country?

THE misrepresentations that have, unwittingly it may be, been made in regard to the changes in the system of medical instruction at the University of Pennsylvania have been so confidently and frequently repeated that it seems necessary to tell the truth.

The latest exposition of these false statements is contained in the speech made by Professor Hamilton before the American Academy of Medicine. An institution has no moral personal existence; its policy is, of course, at any given time, the reflection of the moral or personal character of those who are at that time in charge of the institution. Hence it is absurd to judge the action of the present trustees and faculty by any reference to the actions of past boards or faculty, as Prof. Hamilton has done.

The changes in the system of medical teaching were not simply made, as is asserted, when nothing could be lost, but were carried out at a great pecuniary risk, and have resulted in loss to individual professors.

In order that the loss should not fall solely upon the faculty, a sum of money was conditionally subscribed, nearly all of it by the wealthier members of the Board of Trustees and faculty. The guarantee given was in no case for a salary equal to what the professors had received the year before the change, and which they had every reason to believe would be maintained under the old system. In the case of the younger members of the faculty, the reduction was very severe. The unexpected success of the school under the new régime prevented the shrinkage from being as great as was anticipated, but the aggregate loss to the individual professors has reached a very respectable sum. The change was made as a matter of conscience, although effort was put forth not to allow the whole loss to fall on a few men.

In view of the increased receipts of the school, it may be wondered why the salaries are lessened; but it must not be forgotten that the teaching corps has been increased in numbers in the proportion of seven to eleven, whilst the receipts of the school, including all moneys received from endowment, have not until this year, even with the unexpected classes, increased more than twenty per cent.

THERE are some cases in which the suffering from *hay fever* is so excessive that the patient will be willing to try the remedy suggested by Dr. C. M. Sebastiann and found by him successful in one case, namely, the constant wearing of a thick veil. Probably well-fitting respirators so constructed as to strain the air thoroughly will be found both useful and comfortable.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JUNE 12, 1879.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Tubercular ulceration of ileum. Presented by Dr. FREDERICK P. HENRY.

D. S., æt. 53, male, white, was admitted to the Episcopal Hospital on March 3, 1879, and died about June 1. When I first saw him, on April 1, he was greatly emaciated and extremely feeble, with a pulse that was pretty uniformly at about 100, slight and infrequent cough, and, although there was very marked dulness on percussion over the upper half of left thorax, inspiration was so feeble, owing to extreme atrophy of the muscles concerned in the act, that râles were never detected. There was diarrhœa, ranging from five to ten watery stools daily, in which blood was never observed. The man had been addicted to the use of opium in what may be called a moderate degree, never having exceeded ℥iss of laudanum per diem. The case gradually proceeded to a fatal termination. The treatment consisted in astringents, opiates, cod-liver oil in the form of pancreatic emulsion, and, later, by inunction and prophylactics against bed-sores.

At the autopsy the lungs were found far advanced in phthisis, especially the left; the surfaces of both were very uneven and puckered, and some small cavities were found in the apices of both, the largest—about the size of a walnut—in the left. The pleuræ on the left side were universally firmly adherent, but on the right there were parts free from adhesion, although here also the adhesions were very extensive. All the tissues examined were very dry, and the large veins contained very little blood. The great omentum was completely destitute of fat, and resembled a simple serous membrane; its vessels, as well as those of the mesentery, were plainly visible, and, on holding them up to the light, a beautiful picture of the vascular distribution was obtained. The mesenteric glands were all enlarged almost uniformly, the largest being about the size of a Lima bean. The mucous membrane of the ileum was the seat of a number of tubercular ulcerations, scattered along it at intervals of from one to three feet. They were of typical appearance, their long axis being at right angles to that of the intestine, while the peritoneum opposite their base was studded with miliary tubercles. The kidneys were moderately granular.

Portion of colon from a case of chronic intestinal catarrh. Presented by Dr. LOUIS STARR.

This piece of intestine, comprising the ascending colon, with the beginning of the transverse colon, was obtained from a man who was formerly a patient in the medical ward of the Episcopal Hospital. He was 58 years of age, an engineer, and had enjoyed fair health until eight months before admission. Subsequently he had suffered from diarrhœa, the evacuations varying much in frequency, often numbering, according to his own statement, twenty or thirty in twenty-four hours, but sometimes only three or four, while occasionally there was no movement of the bowels at all for a day or two. After the onset of the diarrhœa, prostration and loss of flesh were rapid and continuous. One month before admission his feet and legs became œdematous.

When first seen he was very weak and anæmic; there was general anasarca, and there were frequent (twenty in twenty-four hours) copious evacuations of the bowels, the stools consisting of colorless liquid containing masses of mucus and partly-digested food. The urine was diminished in quantity, but was otherwise unaltered. No lesion of the heart or lungs could be detected.

Death occurred two days after entering the ward. At the *inspection*, all the viscera were found to be normal except the large intestine. This seemed to be reduced in calibre, and, when laid open, the whole of the mucous membrane, from the ileo-colic valve to the lower part of the rectum, was found to be studded with minute ulcers about as large as a pin's head, the intervening portions being ash-colored, thickened, and covered with villous projections.

I am indebted to the resident physician, Dr. D. J. Milton Miller, for the notes of this case.

Hemorrhagic infarctions of the mucous membrane of small intestine. Presented by Dr. FREDERICK P. HENRY.

In addition to the intestinal specimen, there are before the Society a small ovarian cyst, a hemorrhagic infarction of the liver, and a pair of cystic kidneys, all taken from the same subject. I have given prominence to the intestinal lesion because it is rarer than the others, and because I have just presented a specimen of intestinal disease.

The patient was a white female, æt. 24, who was admitted to the Episcopal Hospital on May 24. I saw her once at her house before her admission, and made the diagnosis of peritonitis. She went to the hospital the next day (Saturday), arriving after I had made my visit, and died on Monday morning. The clinical history, therefore, is a short one, and is condensed from notes made by Dr. Bickford, the resident physician.

The patient says she has always been healthy until the present time. Menstruation has been regular until the last period, which was delayed two weeks, the discharge appearing the day before admission. The attack began on Wednesday, after three or four days of malaise, headache, pain in back and stomach. On Wednesday she was obliged to stop working at the laundry where she was employed. On her way home she had a chill, followed by high fever, which has continued up to the present time. There does not appear to have been the usual severe pain of acute peritonitis. At the beginning of the attack the bowels were quite loose. Tongue dry and bright red. There was tenderness in right iliac region, and in a lesser degree in the left; aching pains over the whole body, especially on moving; a tympanitic abdomen, and some nausea and vomiting.

On the 25th the menstrual flow continued, and the abdominal pain was more severe; there was also more vomiting and a greater degree of nausea. The pulse in the evening was 140, and the temperature 103° F. Death took place, somewhat suddenly, on the 26th, at 6 A.M., immediately after the patient had sat up in bed to take some nourishment.

Autopsy.—The peritoneal cavity contained about Oj of turbid serum. The intestinal coils, where free from lymph, showed an intense degree of congestion. Unattached masses of lymph were found in different parts of the abdomen, and were so consistent as to be readily lifted and removed by the forceps. The amount of lymph was greatest in the hypogastric region, and the external surface of the uterus was greatly congested, although free from lymph. No pus was to be seen. There was an ovarian cyst, the size of a large orange, occupying the site of the right ovary, which contained a limpid, straw-colored liquid. The surface of the liver was the seat of a number of minute cysts, and on the superior surface of the left lobe there was a hemorrhagic infarction, whose circular base, nearly the size of a quarter-dollar, corresponded to the liver-surface, below which it was slightly depressed. On section, it was found to be in shape like a triangle with rounded apex. The kidneys presented an extreme degree of cystic degeneration, the left containing one cyst the size of a walnut and numerous others of smaller size, while the right was of an almost sieve-like appearance on section, owing to the number of cysts divided. The intestinal mucous membrane, at various points, was the seat of hemorrhagic extravasations of circular form, the largest the size of a small pea; they were easily ruptured, and gave exit to fluid blood. The uterine mucous membrane, especially the cervical portion, was intensely congested. There was double pleurisy, with a small amount of turbid effusion at the bottom of both pleural sacs, and soft lymph on the pleural membrane.

In this case there are two distinct processes of disease,—a chronic and an acute,—the former being the predisposing cause of the latter. The causal relation between extensive inflammation of serous membranes and chronic kidney-disease is a well-established fact in pathology. The nature of the woman's occupation is also to be considered, both in the etiology of the peritonitis and in that of the menstrual suppression which was probably the exciting cause of the former. Hemorrhagic infarction is less commonly observed in the intestine than in the stomach, where it is recognized, by some authorities, as the first stage in the development of gastric ulcer.

THURSDAY EVENING, JUNE 26, 1879.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

Concretion from the vermiform appendix.

Presented by DR. FREDERICK P. HENRY.

C. F., a machinist, of temperate habits, was admitted to the hospital of the Protestant Episcopal Church on June 6, 1879, having been ill one week. On admission, he complained of pain over the whole abdomen, which was, however, particularly severe over the external portion of the right hypochondriac region. The tongue was slightly furred, and there was occasional bilious vomiting. Pulse 88, and very tense; temperature 101° F. The urine was acid, specific gravity 102.7, and contained a trace of albumen. A microscopic examination which I made on the 16th revealed the presence of a few faintly granular casts. No cause for the attack was known, and the onset was gradual. After two or three days of malaise, poor appetite, and sensation of fatigue, pain, described by the patient as resembling that of a bruise, was felt in the abdomen, especially in the right side. This pain gradually increased in severity until it became extreme. There was a history of previous attacks of intermittent fever,—the last in 1873,—and of articular rheumatism in 1876.

The decubitus was dorsal, with the right thigh and leg strongly flexed.

Without entering into the details of treatment (which were, however, of unusual interest), I may say that, the diagnosis of acute peritonitis being manifest, the main reliance was placed upon morphia. As an example of the manner in which the drug was used, I will mention that by the 11th, five days after admission, the patient had taken, of liquor morphiæ sulphatis, one hundred and fifty-eight drachms, with alleviation of all the symptoms, and without the production of narcotism. This was at a period when the drug was most sparingly used. At a later stage it was given on several successive days, in doses of gr. ss, every hour for the greater portion of the day, and, in spite of this, the respirations were never less than eighteen per minute, and, although the pupils were very greatly contracted, the patient could always be readily roused by speaking to or touching him. The bowels were spontaneously moved on several occasions. There was a pulse-range from 88 on the morning of the 6th to 160 on the evening of the 16th, and a temperature-range from 98.5° F. on the morning of the 9th to 103.5° F. on the evening of the 7th.

The man died on June 20, fourteen days after admission.

Autopsy.—On opening the abdomen, a quantity of pus, estimated at about one pint, poured out of the incision. The intestinal coils were so firmly glued together and to the abdominal parietes that their removal was a work of great difficulty. The cæcum was sought for at once, but not readily found or removed, owing to its being covered by adherent coils of small intestine. The vermiform appendix curled round the anterior portion of the cæcum, to which it was attached for the greater portion of its length, and near its extremity was found a perforation, immediately above which a hard substance was felt, filling its calibre; a slight pressure caused this to escape from the opening, and its exit was followed by pus. The foreign body is in shape precisely like an apple-seed, although somewhat larger, and its roughened surface is formed of a dark, grayish-brown, calcareous-looking substance. The signs of peritonitis were not more marked in the neighborhood of the cæcum than elsewhere, nor was there any apparent attempt at the formation of a peri-cæcal abscess. Pain was never particularly referred to the right inguinal region, but always, as has been said before, to the external portion of the right hypochondriac region, and, corresponding with this, there is to be seen, on the superior surface of the right lobe of the liver, a circular patch of lymph, about three and a half inches in diameter, which was firmly adherent to the inner surface of the ribs. The surface of the liver at this point is slightly depressed, but, on section, nothing abnormal, beyond a great degree of congestion, was found. The kidneys were very unequal in size, the right being below the normal in this respect, the left above it; but the relative proportions between cortical and medullary substance in the two organs, and their color and consistence, were normal. The spleen was covered with a thick layer of lymph, and was shrunken. Two bodies, which correspond in situation with the appendices epiploicæ, being attached to the large intestine by a short mesentery, present an unusual appearance. Their surface is of a bluish-purple color, and on section their tissue is of a brownish-red hue, resembling that of the spleen. They are about the size of an ordinary marble. One of these, attached to the splenic flexure of the colon, is before the Society. No other than the abdominal organs were examined.

Report of the Committee on Morbid Growths.—"A microscopic examination of the body attached to the splenic flexure of the colon shows it to have all the histological elements, and a similar arrangement of the same, as found in the normal spleen. The nodule is therefore one of those not unusual abnormalities, a supernumerary spleen.

"September 11, 1879."

Perforation of the vermiform appendix. Presented by Dr. J. T. ESKRIDGE.

I am indebted to Dr. Campbell for portions of the clinical history of the following case: B. F., male, æt. 19, had always been healthy, though of costive habit, until January, 1879, when he complained of pain in his right side, which was severe enough to prevent his lying straight in bed at night; but of this he was soon relieved, and was again considered perfectly well till the early part of April, when he had a second attack of pain in the same locality. During the latter part of April, while attending a circus, he was thoroughly wet by a drenching rain, and ate largely of peanuts. About May 1 he was heard crying, while at stool, on account of a sharp pain shooting upwards and to the right side of the belly. On the 2d and 3d he complained of soreness in the right iliac region, and was given by a druggist two doses of purgative medicine in one day, and on the 4th the cramps were worse, and he was compelled to lie in bed, but was given, by the same druggist, a tablespoonful of purgative medicine every half-hour till he had taken a large bottleful, to no effect except to aggravate the pain. May 5, he was seen by a physician, who had his bowels opened by an enema. May 6 and 7, he was better, went down-stairs and sat up, but there was considerable soreness in the right iliac region. He had a chill during the afternoon of May 8, and Dr. Campbell saw him for the first time about 8 P.M. He complained of great pain near the umbilicus. The prostration was great, countenance pinched, pulse quick and wiry, and temperature 99° F. Counter-irritation was applied to the abdomen, followed by warm and moist applications, and he was given calomel, extract of opium, quinia, and rhubarb. Pain relieved by morphia. May 9, at 9 A.M., pulse 110, temperature 100° F., and respirations 40; nausea, vomiting, and great pain; patient sinking. About noon of the same day, I saw the patient, in consultation with Dr. Campbell, and found him lying on the right side, with legs drawn up. There was moderate tenderness over the abdomen, but most marked in the right iliac region, and the right rectus muscle of the abdomen was quite tense; pulse 120, respirations 50, temperature 100° F.; incessant nausea and vomiting, and a distressing thirst. The appendix was agreed upon as the seat of trouble, and perforation was supposed to have taken place the day before. At my suggestion, an enema composed of milk and brandy, with a little laudanum, was given. At 11 P.M., felt better, wanted beer, pain gone, but thirst continued, and he was now vomiting stercoraceous matter; pulse 160, respirations 60, temperature 99° F.; patient sinking. May 10, chill at 5 A.M., and died one hour later. Vomited fæcal matter to the last. No swelling of the stomach.

Autopsy, thirty hours after death.—The abdominal cavity only was examined. No accumulation of gas. Peritoneum highly congested, and in the right iliac region several adhesions had formed. Pus was abundant in the neighborhood of the appendix, and small deposits of the same were found in the umbilical, hypogastric, and left iliac regions. The cæcum, lower portion of the ileum, and beginning of the colon were highly congested, and the appendix, the seat of the original trouble, had undergone suppuration, and was perforated by two holes. The supposed offending substance which was thought to have given rise to the trouble in the appendix was diligently searched for in every part of the abdominal cavity, but it was not found.

The history of this case is the history of most cases of suppuration of the appendix. There may be, as there was in this case, a history of one or more previous attacks of pain in the right iliac region, but the most characteristic and interesting part of the history of suppuration of the appendix is the attack of cramps or pains in the right iliac region, lasting two or three days, according to circumstances, followed by a remission or lull, and this in turn, in a day or two, is followed by a chill, great prostration, and all the evidences of general peritonitis and impending death.

If we bear in mind the usual cause of this trouble, we may in many cases, if consulted early, be able to save, or at least to prolong greatly, our patients' lives. Most foreign substances found to have given rise to perforation of the appendix have been shown to be concretions of fæcal matter. I am not sure that a well-authenticated case is on record where a seed or stone of any kind has found its way into the appendix and caused suppuration and perforation. A number of such have been reported, but none of these were examined microscopically. About one year ago I had occasion to look up this matter, and I was unable to find a satisfactory example. That such a thing could never occur there is no reason for thinking. There are a number of cases reported where foreign bodies, such as pins, tacks, etc., have been found in the appendix, some giving rise to perforation, and others causing no appreciable difficulty.

In the London *Lancet* for March, 1879, Dr. Whiphan read notes of a case of perforation of the appendix cæci and of the cæcum, followed by pyæmia, empyema, and abdominal abscess. At the autopsy an abscess was found in the right iliac region, and free in the cavity lay a pin, which had made its way through the cæcum and its appendix into the abdominal cavity. In the discussion which followed, Dr. Southey related a case in which perforation of the appendix was caused by a tin tack, and Mr. Hulke a case of ulceration of the cæcum caused by impaction of damson stones, but he does not state whether these stones were examined microscopically; at any rate, nothing is said of their having found their way into the appendix. On the other hand, showing the toleration of the appendix for foreign substances, in the first number of the *New York Medical Record* for 1879 a case is reported of accidental death, and at the autopsy a pin was found in the appendix, and, so far as could be ascertained, the man had never complained of pain in that region; and in one of the London medical societies, several years ago (mentioned at one of this Society's meetings, more than a year ago, by Dr. John Ashhurst, Jr.), a case was reported in which, at the autopsy, the head of a pin was found in the appendix and its point in the bladder, around which a good-sized urinary concretion had formed.

Since most of these cases of perforation of the appendix are caused by concretions of fæcal matter, and since these concretions may lie in the appendix for an indefinite time without giving rise to trouble, as is often shown by their presence at autopsies, and in the dissecting-rooms, where we have nothing to lead us to suspect trouble in the appendix, we must look beyond their mere presence for an exciting cause. This I think we may attribute to the muscular action of the bowel and appendix. A fæcal concretion may have lain in the appendix for years, giving rise to no irritation till the bowels are unduly excited by some foreign substance or irritated by cold, when the peristaltic-like movements may be transmitted from the bowel to the appendix, and what before was harmless now becomes an irritant as it is caught between its walls.

The treatment of these cases deserves the greatest care on the part of the most intelligent physician. In most of the cases of perforation of the appendix that I have seen, death has been caused by early, free, and heedless purgation. I have no doubt that the present case might have been saved had he fallen into the hands of an intelligent and careful physician instead of the ignorant and unscrupulous apothecary, who added greatly to his sufferings and danger by the liberal use of purgatives.

I have come to regard purgatives as powerful agents, either for weal or for woe.

Cystic kidneys. Presented by Dr. R. W. Deaver for Dr. W. W. Lovejoy.

G. F. B., æt. 42, artist; irregular habits; had been ill for six months, though he had worked at his easel two weeks before his death. In the early part of his illness had severe dyspeptic symptoms.

Had been under homœopathic care until forty-eight hours previous to his death, when I first saw him. He was propped in a chair, face injected, breathing rapidly, and in a state of partial stupor. His feet were swollen and dropsical, the œdema reaching above the knees; skin was hot and pulse rapid; had a slight cough, and had complained of pain in left side. The next day he was flighty and restless; pulse and breathing jerky. His delirium was of a happy character, though, other than one-twelfth grain of morphia, no drug had been taken. He died the following night.

As far as could be learned, he had never had any retention or suppression of urine, and a specimen passed two hours before death was free from albumen. His homœopathic adviser had found it necessary to tap both his abdomen and legs several times, and, the day before I saw him, had given him one-quarter grain of morphia.

Owing to his hopeless condition when first seen, no physical examination of his chest was made.

Post-mortem.—On opening the thorax, the lower portion of the right lung was consolidated and its surface covered with recent lymph; the right pleural cavity contained one and a half pints of effused liquid. The left lung normal; heart dilated, but no valvular disease; the liver normal in size, with very little irregularity upon its surface,—possibly a cirrhotic change, though it was very slight. The abdominal cavity was filled with liquid; the kidneys were enlarged, studded with cysts,—their combined weight three and a half pounds.

Scirrhoma of breast and axillary glands. Presented by Dr. James E. Garretson.

The specimen shown consists of a left mammary gland and a chain of lymphatic vessels and glands taken from the person of a lady aged about 50.

The mamma, enlarged to thrice its ordinary size, very hard, showing, on section, the stroma like a turnip, was amputated, six weeks back, by Dr. Markley, of Hatboro', in this State. At the time of operation, the disease had not extended its boundaries beyond the body removed.

Sunday, June 15, being in the neighborhood for the purpose of doing an operation for a patient under Dr. Markley's medical care, my attention was called to the case under description.

As seen at this visit, the wound previously made was found fairly healed. At the seat, however, where the uniting process had been best completed, there was found an indurated mass about the size of a hen's egg. No involved neighboring glands exposed their presence to the touch.

Sunday, June 22, by engagement, I met Dr. Markley at the house of the patient, for the purpose of doing a second operation. Examination was made for axillary involvement, but nothing exposed itself.

Commencing the operation by a cut that should lay bare the pectoral muscle, and dissecting the mass from that muscle, it was found connected with a second involvement lying just below the free edge. This, in turn, was connected with another body, and so on one after another, until the large number here shown were dissected from the region of the armpit and neighboring parts. The extent of involvement I offer as a rare one in my own experience. I have never before removed, nor have happened to see removed, so many glands from this region. The number of those here shown is twenty-two; at least half a dozen were not saved.

A postal received this afternoon at three o'clock, from Dr. Markley, reads as follows:

"Have seen Mrs. G. this A.M. She rested well last night. Pulse reduced to 112, with all indications favorable."

REVIEWS AND BOOK NOTICES.

The Heart and its Diseases, with their Treatment; including the Gouty Heart. By J. Milner Fothergill, M.D., Member of the Royal College of Physicians of London; Associate Fellow of the College of Physicians of Philadelphia, etc. Second Edition (entirely re-written), with Illustrations. Philadelphia, Lindsay & Blakiston, 1879. 8vo, pp. 476.

In scarcely any department has medical literature grown so rapidly of late years as in that of the heart and its diseases. Indeed, the accumulation of volumes upon our shelves would fill us with dismay, were it not that each new acquisition bears witness that it is not merely a multiplication of writings with which we have to do, but a development and advancement of our common knowledge of the subject such as can scarcely be found elsewhere in the entire domain of medicine.

Now, as always, it is the English-speaking workers in this field that are most active. The Three Kingdoms have been vying with one another. Hayden's encyclopædic work was quickly followed by that of George Balfour, of Edinburgh, in which much scattered knowledge of the natural history of heart diseases was so well brought together and so strikingly presented by a master-hand that new light was thrown upon the whole subject, a light marking an epoch in the clinical study of cardiac affections and their management. Now Fothergill, of London, adds a contribution to the subject, of which it is high praise to say that the author has fully succeeded in his aim to portray each form of disease of the heart, not as presenting merely a collection of signs and symptoms, but as possessing a clinical history. His "belief that such plan will interest practitioner and student alike in the genesis and progress of diseases of the heart" is well founded, and that it "will furnish indications for treatment, preventive and other, which are not supplied by the plan of regarding diseases of the heart too exclusively from the point of view of the relations of the signs and symptoms found in life to the revelations of the dead-house," is realized in almost every page.

We speak of it as a new book. So it is, in spite of its being dubbed a second edition. It is so "entirely re-written" that its older brother would not know it. The first two chapters are devoted to the anatomy and physiology of the heart. The evolution of the heart as illustrated by its comparative anatomy, some pages contributed by Mr. Alban Doran, will interest all students; while the description of the anatomy of the cardiac nerve-supply, from the pen of Mr. H. A. Reeves, serves as the key to much that follows, and will often be gratefully referred to by every careful reader.

Among the practical points Dr. Fothergill gives the following: "In some respects our knowledge of heart diseases has retrograded. Much that lies outside mere physical signs has been forgotten. The works of Hope and Latham, full of philosophical considerations of the greatest value, have given place to works more devoted to the consideration of diagnosis and the requirements of the examination-table rather than the needs of the bedside." It is our author's aim to blend the old bedside skill in healing with the newer diagnostic acumen, and from the two to deduce a hopeful therapeusis founded upon a sound and comprehensive pathology. How practical this aim is, no reader need be told who has earnestly striven to utilize a scientific knowledge of these maladies in their treatment.

Those who have read Dr. Fothergill's scattered writings will find in the following excerpts a familiar ring; to others they will serve to make known the character of his work and the suggestiveness of his style:

"The aortic second sound is modified by a thickened edge of the aortic valves, and such muffling is not rarely heard before the valvulitis has led to the production of a murmur."

"The diagnosis in diseases of the heart is not the end but the beginning of the examination, and its accuracy is of value, not as a clever feat of intellectual legerdemain, but only in so far as it enables the physician to comprehend the disease and strengthens his hands as to the appropriate treatment."

"The day of the prominence given to the presystolic murmur will soon be over."

In endocarditis "blisters over the heart are troublesome and their utility most questionable."

"Albuminuria is not a prominent indication of the gouty kidney, and is seldom present, and then very slight in amount, till the last stage of heart failure is reached."

Thirteen chapters are devoted to the maladies of the heart and their pathology, of which the author thinks, with Latham, the treatment is, in fact, a part; one to the separate consideration of the principles of treatment in organic disease; one to cardiac malformations; and, finally, one to the elements of prognosis in heart disease.

The section on the sphygmograph is from the hand of Dr. Balthazar Foster.

In the valuable chapter on prognosis the conclusions reached by Dr. Angus MacDonald in his recent work on "Heart Disease during Pregnancy" are given *in extenso.*

Well-made cuts complement the text where needed, and two plates, reproduced from "Basham on Dropsy," illustrate atheroma and fatty degeneration of the arterial walls and their associated degenerative changes.

The easy, fluent, readable style of the author is known to the readers of the *Times.* We commend heartily to them this his latest and most important work. To many an earnest student it will prove a light in darkness; to many a practitioner cast down with a sense of his powerlessness to cope with the rout and demoralization of nature's forces, a present help in time of trouble. J. C. W.

LES TUMEURS ADÉNOIDES DU PHARYNX NASAL: LEUR INFLUENCE SUR L'AUDITION, LA RESPIRATION ET LA PHONATION. LEUR TRAITEMENT. Par le Dr. B. LŒWENBERG. Paris, 1879.

This pamphlet of seventy-five pages, as its title announces, is a treatise on so-called adenoid tumors situated in the naso-pharynx, —the space above the velum palati, as the author defines this term,—and the influence which such growths exert upon audition, respiration, and phonation, together with the treatment to be adopted for their removal.

The author divides these tumors into two classes, viz., sessile and pedunculated, but admits that they may assume the shape of granulations. He then enters upon the symptomatology, and considers, in a very able manner, the great variety of symptoms to which such neoplasms may give rise, and lays particular stress upon the effect produced upon the general health of the patient and upon the physical development in children.

The differential diagnosis between adenoid tumors of the naso-pharynx and chronic coryza, hypertrophy of the tonsils, nasal polypi, post-nasal polypi, and other conditions, is at length discussed.

The latter part of the treatise is devoted to the consideration of treatment, and is divided into general tonic and local treatment. The latter again is subdivided into cauterization with solid nitrate of silver, and ablation with a peculiar pair of forceps invented by the author and pictured in this treatise.

The pamphlet is well written, and contains a great deal that is new and of interest to the profession in general, for adenoid tumors, or at least granulations, in the naso-pharynx are by no means as uncommon as might be supposed, and are not oftener found because they are not particularly looked for with the rhinoscope, especially as the symptoms very closely resemble those of the ordinary post-nasal catarrh.

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VOMITING IN PREGNANCY — COPEMAN'S METHOD.—Dr. J. T. Baldwin, Professor of Anatomy in Columbus Medical College, reports three cases of the successful application of the above method. It consists in thoroughly dilating the external os and cervical canal with the finger. In one case almost every other measure had been previously tried, and abortion was being seriously considered. Upon dilating the cervix, however, the vomiting ceased at once.—*Ohio Medical Recorder.*

GLEANINGS FROM EXCHANGES.

CURE OF TRIGEMINAL NEURALGIA BY ACONITIA.—Dr. R. F. Weir (*Archives of Medicine*, vol. ii., 1879, p. 210) had under his care a patient who had suffered with severe neuralgia for eighteen years, affecting principally the distribution of the infraorbital nerve of the left side of the face, with the paroxysm recurring nearly every minute. Sleep was obtained by the use of chloral and opium. Half an inch of the nerve was removed, and the relief thus gained lasted three or four months, when it recurred and became more marked in the parotid and upper temporal regions, and along the teeth of the upper jaw as well as the lower. Aconitia was administered in doses of $\frac{1}{140}$ gr. increased to $\frac{1}{96}$ gr. ter die. After the second dose of this strength the patient felt slight coldness over the body, with moderate tingling sensations. No effect on the neuralgia was, however, noticed, and two days later four doses of $\frac{1}{96}$ gr. each were given without any physiological effect, though the pain was made easier, so much so that the patient slept the next night without any anodyne. At the end of eight days the dose of aconitia had been increased to $\frac{1}{96}$ gr. seven times a day, no physiological effects, excepting occasional slight chilliness, having been produced. The amelioration of pain was most marked. The aconitia was then stopped. A note made five weeks later states that no recurrence of the neuralgia had taken place; only occasional slight twinges were observed.

PUSTULAR INFLAMMATION OF THE VAGINA.—Dr. G. Ernest Herman (*Obstetrical Jour. Great Britain and Ireland*, vol. vii., No. 4, 1879). A woman of 27, with a history pointing towards former syphilitic trouble, complained of a profuse, thick, yellow discharge from the vagina. On digital examination, the vagina was found studded with shot-like elevations, more numerous at its upper portion, where they coalesced. With the speculum, these were found to be composed, in part, of papular elevations, smooth, round, and yellow in the centre, as though containing pus; some presented on their summits crater-like depressions, lined or bordered with yellowish-white, seemingly pustules which had burst; and some were simply small, superficial ulcers. Between these diseased parts the nearly healthy mucous membrane could be seen, slightly injected. The vaginal portion of the cervix uteri was red and raw-looking. The os and vagina contained a thick, yellow, glutinous discharge. Pustules had been present upon the cervix uteri. The patient was ordered the following:

℞ Magnesii sulphat., ʒss;
Liquor. ammoniæ acetat., ʒii;
Aquæ, ad ℥i.—M.

To be taken thrice daily.

The vagina was syringed with a lotion of sulphate of zinc, three grains to the ounce. Later, strong carbolic acid was applied to the cervical canal, and a glycerin plug was inserted into the vagina. A cure was finally obtained, after a month or two. [The affection was evidently not syphilitic.—ED.]

THE TREATMENT OF HEMORRHOIDS.—Dr. F. P. Atkinson (*Practitioner*, August, 1879, p. 105) thinks enough has not been said relative to the local (non-operative) treatment of hemorrhoids. He divides the affection into three classes,—acute, subacute, and chronic. In the acute stage, when they are of a dark-red appearance, and give rise to a throbbing, burning pain, the effect of calomel dusting is something wonderful. Sponging with hot water also gives a good deal of ease. If this prove ineffectual, and the pain is excessive, leeches may be applied to the anus, or an incision made into the centre of the swelling and the contents squeezed out. In the subacute stage the feeling is more of weight and tension, although it is often acute on going to stool. Compound gall ointment or solution of acetate of lead and opium should be freely and frequently applied, with enema of cold water after each stool. In the chronic stage, the best application is the common pitch ointment; old women sometimes apply a tarred rope. Its astringent effect is something remarkable. Dr. Atkinson recommends, internally, confection of senna or a pill containing euonymin at night, with effervescing Carlsbad salts in the morning.

OBSERVATIONS ON THE DIGESTION OF MILK.—Under this heading, Dr. E. F. Brush (*N. Y. Med. Jour.*, 1879, p. 300) gives the result of some experiments which he has made in the digestion of milk and kumyss. Cows' milk, he says, is not so digestible as the milk of mares, etc., because the cow is a cud-chewing animal. In kumyss the caseine is, so to speak, practically regurgitated and chewed, *i.e.*, having been coagulated, it is resubdivided, and incapable of being coagulated under any acid or ferment. An advantage of kumyss in the artificial feeding of children is that the sugar of the milk has been changed into alcohol instead of lactic acid, alcohol, when properly presented, being in reality a hydrocarbonaceous food. Dr. Brush subsisted for a number of days on kumyss exclusively, taking eight bottles a day. During this time his urine, carefully examined, contained no alcohol. Afterwards, distilling some kumyss, he drank the distillate, and, later, discovered alcohol in his urine. This goes to show that alcohol, as contained in kumyss, is destroyed in the system, but the same alcohol, when it has undergone the process of distillation, is eliminated as alcohol.

HOT-WATER INJECTIONS IN ABORTION.—Dr. Arthur Perigal (*Lancet*, ii., 1879, p. 276) was called to see a woman in abortion, with severe flooding. After using ergot without result, water, as hot as could be borne, was injected, and, the bleeding having somewhat abated, the fragments of the placenta were taken away, and by the aid of further doses of ergot, aromatic sulphuric acid, and cinchona, the patient made a good recovery.

NITRITE OF AMYL IN SEA-SICKNESS.—Mr. Henry Naylor (*Lancet*, ii., 1879, p. 276) says, with regard to the cause of sea-sickness,—

"The theory I propose may be called the cerebral anæmic theory. The rapid swinging of the vessel and the body with it irritates the eyes and vision, and this, by reflex action, produces a spasm of the cerebral capillaries; this explains the feeling of faintness and giddiness that comes on suddenly just as the vessel gives a big swing. The sudden emptying of the cerebral vessels causes the stomach to sympathize, resulting in efforts of vomiting, whether the stomach be full or empty. These symptoms are most distressing when the subject is in a standing or sitting position, with the eyes open. If he lies down, the change of position relieves the anæmia, the faintness and giddiness pass off, and the sickness ceases. But occasionally even the recumbent position does not give relief if the eyes are kept open. When they are shut, the symptoms are not felt in the least. I have known this to be the case with several ladies, who were never comfortable while at sea unless they were lying down with their eyes closed. They were able to eat meals and retain them if they lay down and closed their eyes immediately afterwards. In fact, I have been obliged to keep some constantly in bed to prevent their dying of starvation. A fact that helps to show the feasibility of the anæmic theory is that brandy and other stimulants give considerable relief for a time, which would not be the case if cerebral congestion had to do with sea-sickness. The explanation of how sea-sickness continues so persistently in some is that the sickness weakens the heart's action, and this keeps up the cerebral anæmia, and that in turn again produces the sickness; so that prolonged sea-sickness is due to a circuit of causes, the one producing the other,—the visional irritation, cerebral anæmia, sickness, weak heart's action.

"With reference to nitrite of amyl, if it is to do any good it must do so at once. This is because the medicine, being an antispasmodic, relieves the spasm of the cerebral vessels, and thus the brain is refilled with blood. But if it fails, then the persistent sickness, by its effect on the contractions of the heart, prevents the brain from getting a sufficient supply of blood, and thus the brain becomes anæmic, not from a spasm of the capillaries, but from an insufficient power of the heart. It is at this stage that alcoholic stimulants, in small doses frequently repeated, give great relief."

ANTISEPSIS IN MIDWIFERY.—In the lying-in asylum of Copenhagen the influence of antiseptics in midwifery has been thoroughly tested.

"During twenty-two years (1822 to 1843), 21,149 women were confined there, of whom 1096 died of puerperal fever, or 1 in 19. Influenced by the remarkable results obtained in the surgical service by the adoption of Lister's method of operating and of dressing wounds, Stadfeldt, the physician-in-chief, introduced a strict preventive antiseptic treatment. A small room is set apart for deliveries, and from two to six hours after delivery the patient is brought, in the bed in which she has been delivered, into one of the rooms opening on the other part of the corridor. Inasmuch as the establishment is a school for the training of midwives, the pupil goes with her patient from the delivery apartment to the lying-in department, and when the patient leaves the nurse takes a bath and her body and clothes are disinfected in the following way. Connected with the window of a small room is a *hose* of sufficient size to cover the head, allowing space for free respiration, while her person and clothes are subjected, for a quarter of an hour, to the fumes of sulphurous acid. Before and after digital examination per vagina, the hands are washed with a solution of carbolic acid, and all instruments used in operation are disinfected in this carbolized water. If possible, the confinement takes place under a spray of the same disinfectant; vaginal injections with carbolized water (one pint to one hundred and twenty-five) are used in every patient twice a day; all lesions are dressed with carbolized ointment, and the external genitals covered with carbolized oil, which, of late, has been replaced with salicylic acid in ten parts of wheat flour, powdered over the parts two or three times daily. The patient rests on a sack filled with chaff, both sack and contents being burned when the patient is discharged. Each patient is allowed a pillow of hair, and also blankets, and if the delivery has been attended with anything abnormal, these articles are thoroughly cleansed. The room remains empty after each confinement, and is often disinfected. The same bed-pans, syringes, and catheters are never used for the sick and the well. The water-closets are disinfected every day. The after-births and soiled clothes are immediately thrown into a pail containing a strong solution of chlorinated lime, and burned the next morning.

"This treatment has accomplished all that was expected of it. During the twenty years from 1850 to 1869 inclusive there were 21,675 deliveries, of whom 815 died of puerperal fever, or 1 in 26, while during the five years from 1870 to 1874 inclusive, in which special attention was directed to antisepsis, there were 5304 deliveries, with 61 deaths from puerperal fever, or 1 in 87, the highest mortality being 1 in 75, the lowest 1 in 170."—Dr. Lothrop, in *Buffalo Medical and Surgical Journal*, 1879, p. 49.

INCISION IN DYSMENORRHŒA.—Dr. Fordyce Barker, at the late meeting of the American Gynæcological Society, remarked that this operation had been performed unnecessarily and injudiciously. He was cognizant of sixteen deaths which had followed this method of treatment in the hands of skilful surgeons. He had himself seen over a hundred cases in which no relief had followed this operation. Dr. T. Addis Emmet said he believed firmly that mechanical dysmenorrhœa was a myth. Where such an operation is contemplated, he urged strongly the searching for the results of a previous cellulitis.—*Toledo Medical and Surgical Journal.*

RUSSIAN GARGLE.—Carbolic acid and tannic acid, each fifteen parts; alcohol, sixty parts; distilled water, one hundred and twenty parts. A teaspoonful of this is added to half a pint of water in order to form the gargle. This solution is largely employed in Russia at the commencement of angina and in chronic inflammations of the throat.—*L'Union Méd.; Med. Times and Gazette.*

ACUTE BRIGHT'S DISEASE CURED BY JABORANDI.—Prof. J. M. Da Costa, in the *Hospital Gazette*, publishes a clinical lecture, in the course of which he records a case of acute nephritis cured by this drug. The fluid extract of jaborandi was used in drachm doses three times daily. This dose produced excessive diuresis and diaphoresis. At the expiration of five days all symptoms of the disease had disappeared. The woman was left in an extremely prostrated condition, to counteract which *dialyzed* iron was administered both internally and hypodermically.—*Brief.*

IMPROVED METHOD OF APPLYING HEAT TO THE CHEST.—Dr. Thomas J. Mays (*N. Y. Med. Jour.*, October, 1879, p. 365) says that the essential points of utility in a poultice are, 1, a capacity to retain a moderately hot and constant temperature; 2, sufficient extension to envelop not only the inflamed but also the surrounding healthy parts. In order to fulfil these indications in a more satisfactory manner, particularly in the treatment of chest troubles, Dr. Mays has devised a double vest-shaped jacket of rubber. This is fitted with rubber tubes to admit and discharge the steam, which is generated in a cylindrical boiler of tin, eight inches in diameter, six inches high, and holding two gallons of water (two-thirds of which quantity is sufficient for steaming purposes). This may be placed on the stove or a small portable gas or kerosene furnace. This jacket, made by Tiemann & Co., of New York, is pictured in Dr. Mays's article, and seems admirably adapted to all those uses for which a poultice is ordinarily applied. Steam may be admitted to either side alone or to both together. A thick vest of flannel should be interposed between the steam vest and the skin, and it may be used while the patient is sitting up or in bed.

EFFECT OF DIFFERENT REMEDIES IN ASTHMA.—A man suffering from spasmodic asthma was given during a paroxysm an inhalation of ten drops of the iodide of ethyl, but without relief. Nitrite of amyl was subsequently used, but without benefit. Emetic doses of ipecac relieved the paroxysms for half an hour, but they then returned as severe as before. Iodide of potassium, one hundred and eighty grains daily, proved useless. The same result followed bromide of potassium, one hundred and twenty grains daily. Quinine, fifteen grains morning and evening, caused slight relief, but the cinchonism which followed required its suspension. One effect of the quinine was to cause profuse watery discharge from the nose. Tincture of belladonna fifteen drops and carbonate of sodium ten grains, lessened the cough of the concurrent bronchitis. The attacks became less frequent, but were equally severe. The only decided benefit in the case was from the use of hypodermics of morphia. They never failed.—Report of Mount Sinai Hospital, *New York Medical Journal*, October, 1879, p. 409.

MISCELLANY.

HARD ON THE SPECIALISTS.—Dr. L. P. Yandell, of Louisville, known among dermatologists as the author of a theory of malaria as the cause of many skin diseases, which has failed to gain the support hoped for by its talented originator, thus relieves himself in a letter describing the recent meeting of the British Medical Association:

"I forgot to mention, while speaking of the dermatological section, that in the discussion of lupus it transpired that Anderson, Morris, Squire, Hutchinson, Walter Smith, Stowers, and Thire all considered this disease a form of scrofula. This doctrine I have taught in the University. After a while they will all come to recognize psoriasis and ichthyosis also as scrofula. When dermatologists get to studying and treating diseases with reference to their cause, then the science will advance rapidly in simplicity and usefulness. There is little to hope in this direction from the young specialist, who, like the parasites of this membrane, never goes deeper than the three layers of this wonderful corporal envelope. It is to the all-around man, who sees the skin as a part of a whole, which is nourished and diseased in the same way that other portions of the body are, that the profession must look for practical instruction."

EXTREME MEASURES.—Dr. R. L. Payne, of North Carolina, is an advocate of the heroic treatment of the too prevalent custom of kissing. He would abolish it altogether. To him *kiss* no longer, as in the golden age, rhymes with *bliss*, but with *syphilis*. After citing some cases of labial chancre, the doctor says,—

"Very many other diseases may be conveyed by the act of kissing, and I might go on at length enumerating them, and adducing 'confirmations as strong as proof of Holy Writ;' but my object is simply to call attention to the truth which lies in this direction, and to testify most solemnly against a practice so fraught with danger, so pregnant with death!

"The act of kissing is never, under any circumstances, indispensable (*sic!*), and the indiscriminate practice is not only unnecessary, but is also foolish, dangerous, and very often insincere.

"Ah, yes; many an insidious kiss has been given since the days of Judas! Then, why longer indulge in a custom so empty, so meaningless, but yet so potent for evil?"

Anti-Vivisection in England.—The feeling against vivisection in England has been stirred up till it has become dangerous to scientific interests as well as absurd from every sensible point of view. A bill was finally presented in Parliament for the total abolition of vivisection, and it was strongly urged from some quarters. It has recently received a quietus, however, being defeated in both houses. The vote in the House of Lords was eighty-one to sixteen.—*New York Medical Record.*

Quinine, Solution of, in Stomach.—A weak tartaric acid lemonade taken after quinine is said to hasten solution and absorption, and relieves gastric irritability.

Unfortunate and Unexpected Result of the "Higher Education of Women."—Miss Emilie Lawson is a medical student of the Pacific coast who occasionally "drops into poetry." The following specimen of her versification is part of an address to her fellow-students of the Celsian Association of the Medical College of the Pacific. After alluding, in the course of a general survey of the universe, to the "patient, wise foraminifera" as "cunning dears," the poetess goes on to apostrophize her auditors in the usual strain, and ends thus:

"To-night we kindle our ambitious flame,
Whose glowing fires shall burn from age to age,
Fed by the wisdom of the coming sage,
Till the bright clouds, in luminous flakes uncurled,
Shall float in shining fragments o'er the world."

The Erasmus Wilson Trust.—It is generally known that the chair of Dermatology in the Royal College of Surgeons, established and filled by Mr. Wilson, has now been abolished at the instance of the donor. Mr. Wilson has now, in place of it, founded a trust to promote original research in pathology by members of the College of Surgeons, and the publication of the results of such research by lectures, to be delivered in the college. The lecturer receives the usual honorarium of twenty-five dollars per lecture, and further remuneration according to the value of the research and the expense incurred for it.

Prof. Brücke, who has held the chair of Physiology in the University of Vienna since 1849, has been chosen Rector Magnificus for 1879–1880, being the first Protestant rector from the foundation of the university.

There were in Saxony, in 1878, 1126 suicides,—a decided increase. 215 were women.

The new London Temperance Hospital, it is said, will cost $150,000.

Baden-Baden baths had 31,461 visitors this summer; Carlsbad, 21,019; Aix-la-Chapelle, 15,447.

Surgeon-General United States Navy.—Philip S. Wales, M.D., who has been appointed Chief of the Bureau of Medicine and Surgery of the United States Navy, with the relative rank of commodore, to succeed Chief (Surgeon) J. Winthrop Taylor, placed on the retired list, was born in Annapolis. He received his primary education in the high school of Baltimore, and subsequently studied medicine under the tutelage of the late Professor Dunbar, and graduated, in the spring of 1856, at the medical school of the University of Maryland. Dr. Chatard, now Bishop of Vincennes, Ind., was one of his classmates. He was commissioned an assistant-surgeon in the navy, April 17, 1856, and was soon ordered to duty at the Naval Academy, Annapolis. On June 8, 1873, he was promoted to be a medical inspector, and at the time of his new appointment had reached nearly the top of the list of the fifteen medical inspectors in the service. Dr. Wales is about forty-five years of age, and carries with him a most excellent reputation into the high office he has been called to fill.

The Société de Biologie in Paris has opened a subscription-list for the purpose of erecting a monument to Claude Bernard. It will take the form of a statue, which, by permission of the Municipal Council of Paris, will be placed opposite the chief entrance of the Collège de France.

The new catalogue of the library of the Faculty of Medicine in Paris, which has been nearly two years in preparation, has been recently completed, and the books have been arranged in order on the shelves. The library contains from 55,000 to 59,000 volumes, more than 20,000 of which had been lying for years, covered with dust, in obscure places.—*Hospital Gazette.*

Aconite-Poisoning.—Dr. C. G. Carleton reports a case of aconite-poisoning from about three teaspoonfuls tincture of the root, with recovery. Four hypodermic injections, fifteen drops each, of tincture of digitalis were given.—*British Medical and Surgical Journal*, 1879, 545.

Bergh versus Magendie.—"At the head of barbarous and unfeeling vivisectors stand the French and Italians, the Austrians and Germans next, and lastly the English. The wretch Magendie, before alluded to, *was undoubtedly the most abandoned criminal that* *ever lived.* Where the pitiless deeds of our own countrymen will ultimately rank them in this damnable record, time will show."

THE effects of anæsthetics are remarkable in most quarters of the globe, but in New York City a frightful danger lurks in the ether bottle. Woe to the matron or the maiden that comes within its influence. A woman in that city avers that a dentist violated her during anæsthesia, and that in due time she was relieved, at his suggestion, of the fruits of his work by an abortionist. All of which our esteemed contemporary the *Hospital Gazette* thinks may be of the nature of a subjective sensation. Perhaps; but outside of New York subjective beginnings do not lead to such objective results.

DR. SETH W. WILLIAMS, senior assistant in Bellevue Hospital, recently died of the very rare disease idiopathic cerebral abscess.

METHOD FOR THE DISCOVERY OF SPERMATOZOA IN URINE.—M. Rouvier allows the urine to stand for twelve hours, adding benzine in summer to prevent putrefaction; he then decants it and collects the flocculent precipitate. This precipitate is put into a test tube, ether is added, and the mixture is well shaken. In a few minutes the ether collects on the surface of the liquid as a gelatinous layer. The ether is removed by means of a pipette, and is placed in a conical glass containing a small quantity of distilled water. All the spermatozoa in the urine thus tested are found in a very small compass, and each microscopic preparation will contain at least five or six in the field. —*Gaz. Hebdomadaire.*

THE purgative effect of hypodermic injections of aloin has been investigated by Dr. Frohmüller, who states that a solution of one part of aloin in twenty-five parts of very warm water will have the same purgative effect when injected hypodermically as when taken internally. Two injections are usually necessary to produce the desired effect in from six to fourteen, very rarely in two to three, hours, there being scarcely any irritation and never an abscess caused where injected. Hypodermic injections with extract of aloes (one part in ten parts of water) also proved efficacious, but produced a stronger inflammation, where injected, than aloin.—*Pharm. Post; Am. Jour. of Pharmacy.*

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OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM OCTOBER 5 *TO OCTOBER* 18, 1879.

SUTHERLAND, CHARLES, COLONEL AND SURGEON.—To report in person to the Commanding General, Military Division of the Pacific, for duty as Medical Director of that Division. S. O. 229, A. G. O., October 4, 1879.

IRWIN, B. J. D., MAJOR AND SURGEON.—To report in person to the Commanding General, Department of Dakota, for assignment to duty. S. O. 229, c. s., A. G. O.

WOLVERTON, W. D., MAJOR AND SURGEON.—To report in person to Commanding General, Department of Dakota, for assignment to duty. S. O. 229, c. s., A. G. O.

HORTON, S. W., MAJOR AND SURGEON.—To proceed from Omaha, Neb., to Rawlins, Wy. T., and report in person to the Department Commander. S. O. 91, Department of the Platte, October 11, 1879.

GIBSON, J. R., MAJOR AND SURGEON.—At expiration of his present leave of absence, to report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 235, A. G. O., October 13, 1879.

BROWN, H. E., CAPTAIN AND ASSISTANT-SURGEON.—Leave of absence extended one month. S. O. 111, Division of the Missouri, October 13, 1879.

TAYLOR, M. K., CAPTAIN AND ASSISTANT-SURGEON.—To accompany second detachment of the Fourth Cavalry from Fort Clark to Fort Hays, Kans., and return to proper station upon completion of this duty. S. O. 211, c. s., Department of Texas.

VICKERY, R. S., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Fort D. A. Russell, Wy. T. S. O. 92, Department of the Platte, October 11, 1879.

MIDDLETON, P., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to temporary duty as Post-Surgeon at the post of San Antonio, Tex. S. O. 211, Department of Texas, October 7, 1879.

KIMBALL, J. P., CAPTAIN AND ASSISTANT-SURGEON.—Confirms order of October 1, 1879, directing him to proceed to Rawlins, Wy. T., for duty in the field. S. O. 91, c. s., Department of the Platte.

MUNN, C. E., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the Commanding General, Department of the Missouri, for assignment to duty. S. O. 232, A. G. O., October 9, 1879.

DE WITT, C., CAPTAIN AND ASSISTANT-SURGEON.—Confirms order of October 1, 1879, directing him to proceed to Rawlins, Wy. T., for duty in the field. S. O. 91, c. s., Department of the Platte.

BYRNE, CHARLES B., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, to proceed to New York City, and, on arrival, report by letter to the Surgeon-General. S. O. 235, c. s., A. G. O.

MOSELEY, E. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Having reported in person, relieved from duty at Fort Robinson, Neb., and to report in person to the Department Commander at Rawlins, Wy. T. S. O. 89, Department of the Platte, October 6, 1879.

FINLEY, J. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 230, A. G. O., October 6, 1879.

TURRILL, H. S., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Columbus, New York Harbor, and assigned to duty at Madison Barracks, Sacket's Harbor, N.Y. S. O. 182, Department of the East, October 16, 1879.

COMEGYS, E. T., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from operation of par. 7, S. O. 210, c. s., from these Headquarters. S. O. 211, c. s., Department of Texas.

KILBOURNE, H. S., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report in person to Commanding General, Department of the East, for assignment to duty. S. O. 235, c. s., A. G. O.

BIART, VICTOR, FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at the Cantonment on North Fork of the Canadian River, Ind. T., and to take post at Fort Leavenworth, Kans. S. O. 193, Department of the Missouri, October 4, 1879.

BIART, V., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one year on Surgeon's certificate of disability, to take effect October 1, 1879, with permission to go beyond sea. S. O. 232, c. s., A. G. O.

APPEL, A. H., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To repair to Fort Benton, M. T., and to report to the Post-Commander for duty as Post-Surgeon. S. O. 106, Department of Dakota, September 30, 1879.

PHILLIPS, H. J., CAPTAIN AND ASSISTANT-SURGEON.—Died at New York City on October 10, 1879.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 8, 1879.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON A CASE OF VIOLENT UNILATERAL CHOREA PRODUCED BY AMPUTATION.

Delivered at the University Hospital

BY H. C. WOOD, M.D.

GENTLEMEN, — The man whom I bring before you is now 74 years old, of intemperate habits, a tailor by occupation. Some ten or twelve years since, he suffered from senile gangrene of the left foot, for which amputation was finally performed, about four inches below the knee. The resulting stump is still very well formed, and has never been painful or tender.

About five or six years after the amputation, Mr. B. first noticed movements in the stump, and some months later they commenced in the left arm. Both before and since the amputation his general health has been good. At present the leg-stump is flexed at right angles to the thigh. There is a clonic spasm of the flexors, occurring a little over a hundred times a minute, and drawing the end of the stump towards the thigh, over an arc of from two to four inches. Rarely there is a spasm of the extensors, bringing the leg beyond the right angle, but never straight. There is absolutely no tenderness over the stump, nor over the popliteal or sciatic nerves. Rarely there are choreic spasms of the glutæi and other muscles moving the thigh. In the forearm the choreic movements occur from eighty to ninety times a minute. Much of the time the flexors of the fingers are especially affected; at other times the adductors and abductors jerk the hand to and fro. The biceps and muscles of the upper arm are every now and then affected, throwing the hand violently about; at times these movements are rapidly repeated. The muscles of the shoulder are rarely affected. The patient states, however, that rarely these shoulder-movements are quite active; he also states that on some days the lateral muscles of the trunk are affected: in the wards they have been quiet. The muscles of the left side of the face occasionally suffer from decided clonic spasms: at present, as you see, there are only some tremulous movements of the upper lip and the angle of the mouth, which is slightly drawn upward, as though from habitual spasm. There are very slight choreic twitchings of the neck-muscles. The right side of the body is and always has been entirely free from abnormal movements. The man habitually sleeps with his arm elevated and placed under his head. Even in waking, when the arm is held, movements cease in it. The position assumed in sleep is evidently for the purpose of holding his arm. When his arm is confined, the movements in the stump become worse, and when the stump is restrained, it remains quiet and the movements of the arm become worse; when both are held, the movements of the thigh-muscles become very strong. The faradaic current, of considerable intensity, applied over motor points of the thigh and popliteal nerve, fails to develop any tenderness or to exert any influence upon the spasm. During sleep, the arm is often quiet, even when not restrained, but the stump is always twitching, although its movements are stated by the night nurse to be very slight during sound sleep.

It is very evident that the man before us is suffering from one of the forms of the so-called chorea of the stump. Judging from the exceeding scantiness of the literature of the subject, the affection must be a very rare one, although painful or neuralgic stumps are but too common. In some cases the parts of limbs left after amputation are affected by peculiar local painful spasms of one or more muscles, and not infrequently these cramp-like contractions coexist with neuralgia of the stump. In the majority, if not all, of such cases, the difficulty is a local disease of the nerve-fibres, and often there are distinct bulbous, neuromatous enlargements at the ends of the severed nerves. Very generally, under these circumstances, distinct tenderness exists in the end of the stump, and often it can be traced along the course of the nerves.

The relationship, on the one hand, between obstinate painful spasms occurring in a limb near where it has been divided and neuralgias of the stumps, and, on the other hand, between such neuralgias and neuritis, is so close that it seems a fair conclusion that these cramp-like spasms are themselves produced by the local structural changes in the nerves. In most such cases the proper treatment is removal of the affected nerve, and relief is to be expected if the operation be practised sufficiently early. If the surgeon delay long, there is increased probability that the neuritis will have travelled up beyond the reach of his knife. In some cases relief is afforded at first by the operation, but after a time the pain returns. This is not remarkable: a redivided nerve, even if healthy structure be reached, may well take on afresh the old morbid action.

It is by no means clear that the bond of common etiology and pathology between local cramp spasms in a stump and a true painless chorea like the present is a very close one. The complete absence of pain or tenderness throughout his history separates the man before you widely from the patient in whose life-chart every northeast storm is marked by a day of intense suffering.

I do not think, therefore, that any conclusion as to the nature of the lesion which produces a chorea like the one in the man before you can be properly drawn from our knowledge of neuralgic stumps. It is, however, vitally important to determine whether the lesion in a case like the present is peripheral or centric. It is plain that the centres must be involved directly or indirectly, organically or functionally. There are only two ways of accounting for the symptoms. It may be that there is a peripheral lesion which acts as a permanent irritation and maintains such a permanent influence upon the nerve-centres as continually to provoke discharges of motor nervous energy.

That the correctness of such an explanation is possible is shown by the history of cicatricial epilepsy. I have seen a bodily state, in which six to twenty convulsions occurred daily, removed almost at once by the cutting out of a seemingly unimportant and certainly insensitive cicatrix.

What is possible may not exist, and the inquiry as to whether in any way an amputation may cause centric nervous disease is very pertinent. Some years since, Vulpian and Dickinson proved that after amputation a creeping structural change occurs in the nerve, which at last reaches and travels along the spinal cord. This has been confirmed by Hayem and others. The spinal lesion is on the side of the injury, and consists in lessening of the gray matter of the anterior horn with atrophy of the multipolar cells, with changes in the white matter resembling those of chronic myelitis.

It is, I believe, evident that in the present case a centric spinal lesion would not be sufficient to account for the symptoms. The whole motor apparatus of one side of the body is involved, and the lesion would have to extend into the medulla. Further clinical and experimental evidence seems to prove that choreic movements are never spinal. Then, again, you will notice that there is no heightening of the reflex activity, and that the movements are distinctly not reflex: handling, tapping, tickling, the galvanic currents, all forms of peripheral irritation, alike fail to magnify them.

Any centric lesion causing the movements must be cerebral, and without doubt in the cortical substance. I believe up to the present no one has traced the structural nerve-changes following amputation beyond the cord into the brain. Pitres amputated the front leg in several kittens, and, after keeping them twenty-eight months, examined carefully their nerves, cords, and brain. He found degeneration in the cord, but the brain was perfectly normal.

It would seem to me certain that in ordinary cases the nervous lesions following amputation do not go above the spinal cord. This does not prove that the lesions never ascend higher. The present is an extraordinary case. Two or three days ago a gentleman died whom some years since I saw suffering from indubitable locomotor ataxia: a year or two later symptoms of chronic cortical cerebritis, such as is seen in general paralysis of the insane, came on, and progressed to death. This is not the first case of the kind reported, and I believe the microscope will show an ascending of the chronic inflammation from the cord to the cerebral cortex. Again, Charcot and his pupils have abundantly proven that lesions of the cortex travel downward. Whilst, therefore, we have no proof that the atrophic changes of the spinal cord following amputation ever reach the cortex cerebri, it is not at all unlikely that they sometimes do so.

When we come to set one thing against another, we can only conclude that there is at present no proof or disproof either of the peripheric or of the centric origin of the choreic movements: either theory is commensurate with the now known facts. Dr. S. Weir Mitchell inclines to the peripheric theory, "because the fits sometimes occur too soon after amputations." It is not certain that he clearly distinguishes between painless and painful cases, and he says he never saw a case arise very soon after amputation. I can find no case like the present reported, in which the pain was developed under several months. In the man before you, five years were required. How fast a lesion might under exceptional circumstances travel we do not know. The absence of tenderness does not disprove the peripheral theory, because, as I told you, the cicatrix whose removal cured an epilepsy was entirely insensitive.

The exact etiology of the chorea remains, therefore, insolvable with our present knowledge. If the man were young and the case recent, exsection of the nerves should be practised, as giving the benefit of the doubt; but this patient is seventy-four years old, injured by intemperance, with a past history of senile gangrene and, consequently, of probably impaired arteries. The movements have gone on for years, until they have become the habit of the system. He refuses to be operated on, and I certainly would not advise operation. Medicinal treatment does not afford much hope. Atropia has been tried somewhat, with no distinct result; but it shall be further pushed. It must, of course, be injected into the muscles directly.

ORIGINAL COMMUNICATIONS.

THE TREATMENT OF POST-NASAL CATARRH.

Read before the Philadelphia County Medical Society, September 24, 1879,

BY WM. R. D. BLACKWOOD, M.D.

UNDER the title of our subject this evening may properly be included the treatment of an extensive series of disorders of the naso-pharyngeal space, evidencing all grades of severity, from the simplest chronic coryza, of little account, to the formidable ozena, which, in its destructive ravages, sometimes threatens, and occasionally destroys, life itself.

The great majority of cases of catarrh are not under medical treatment of any kind, and the majority of the remainder are in the hands of advertising philanthropists, retired clergymen, Indian, botanic, eclectic, homœopathic, and such like illiterate quacks. Thousands of cases have been treated by eminent and by skilful men, without either cure or appreciable relief. Sweeping as this assertion may seem, let gentlemen only interrogate families under their charge, many of whose members suffer from catarrh without applying for advice, and they will readily discover its truth. The natural outcome is that post-nasal catarrh is considered an incurable disease, and, as the laity is not to blame for its mistaken opinion, would it not be well that an effort be made to undo this error by paying the subject more attention than it apparently receives, and which, from its importance, it undoubtedly deserves? It is singular that so much study has been given to some diseases and so little to others, and, as it does not always follow that the gravity of an affection determines the interest felt in its investigation or treatment, it is possible that in this way the subject under consideration may have been unworthily neglected.

Very little inquiry will elicit the reason why so little is successfully done in the treatment of catarrh. Briefly stated, the failure consists in relying upon general constitutional treatment, which is all well enough as an auxiliary, but not sufficient in itself. To cure the sufferer demands the persistent, skilful, personal attention of his medical adviser, and unless this course is strictly and conscientiously followed the patient will receive little benefit and his physician only discredit.

The disagreeable nature of the service, the time and trouble involved, and the difficulty in some cases of mechanical treatment, have deterred the larger part of the profession from devoting the requisite personal attention to their patients, and the expense attendant upon a necessarily extended course in the hands of most specialists has prevented many from receiving the benefits which would accrue from their services.

I do not intend speaking of the pathology of naso-pharyngeal catarrh, there being too much room for difference of theory, and too little time for discussion. The vital point is the treatment of our patient. What is to be done? No claim of novelty is intended in this paper, but it may be that suggestions thrown out as the result of successful management might be elaborated by others, and serve a useful end to those who have hitherto given the question less attention than it of right deserves.

First, then, as to mechanical treatment,—an essential in all cases. The instruments requisite are few and simple in construction and application. At their head stands the nasal douche, an invaluable and indispensable assistant, not to be replaced by any other. The objections to its use are avoidable by simple precautions. Employ water always at a temperature of 100° F.; add one drachm of common table salt to each pint of water used; do not permit the patient to swallow during the flow of the douche; hold the reservoir no higher than the eye of the sufferer; incline the head slightly forward over a basin; use a simple douche, free from valves or complicated mechanism; an ordinary tin or glass funnel, with a yard of quarter-inch rubber tubing and a conical glass, wood, or porcelain nozzle, is as good as any, is cheap, durable, and easily made. Do not trust the douche in the hands of the patient until its use is thoroughly understood and accurately managed. In stupid, perverse, or nervous persons, never trust it to them; always apply it yourself. I have never had any trouble occur through the use of the douche. The posterior-nares syringe is a valuable adjunct, as also is the atomizer, in getting at the vault of the pharynx, which they do in many cases much more effectually than does the anterior douche. Although, theoretically, the steam atomizer appears preferable, because of the temperature being readily maintained, yet the difficulty of directing the spray in other than a horizontal line, and the view of the parts being intercepted by the boiler, render the hand-ball apparatus more convenient, especially in conjunction with simple adjustable tubes, which afford a lateral or vertical discharge at pleasure. A convenient though expensive apparatus is the compressed-air mechanism of Codman & Shurtleff, by means of which a steady flow may be maintained for any desired length of time. In common with those applied by the douche, all atomized solutions should be at blood heat and of sufficient density. Caustic- and sponge-holders, brushes of various sizes, an insufflator, a tenaculum for the uvula, a tongue-depressor, an anterior-nares speculum, and a rhinoscopic mirror are requisite, with a strong light, natural or artificial, in the management of which nine-tenths of the imposing array of mechanism usually encountered may be dispensed with. Each patient should have his own douche, and all instruments employed in office practice must be kept thoroughly clean. Scrupulous care is to be observed in syphilitic cases that the ordinary catarrh of one patient is not complicated by specific inoculation from another.

In the department of materia medica the list of necessary agents will vary with the taste of the physician, some drugs developing powers in the disease under consideration, as in others, according to the ability shown in their use or the idiosyncrasy of each particular case. In my practice the list is not extensive. The first point in treatment is the thorough cleansing of the parts at least twice daily, the ordinary solution of sodium chloride being a satisfactory one. Occasional alternations with a solution of potassium biborate, which I prefer to the sodium biborate, in similar proportion, will prove effectual where the secretion is free and the posterior nares blocked. The addition of from three to five grains of potassium permanganate in solution, when the wash is from one-half to three-quarters expended, will modify the fetor and render the subsequent steps much more comfortable to the medical attendant. The liquor sodæ chlorinatæ replaces the permanganate satisfactorily, especially in delicate blondes. Potassic chlorate may also be added, but it is serviceable only from its local effect, no constitutional impression being apparent through it in my hands. The use of from one-half to one ounce of the distilled extract of witch-hazel, as prepared by Mr. McKelway, of this city, is frequently efficacious, but the ordinary fluid extract made by displacement is not reliable. The simple or compound tincture of benzoin is an admirable remedy, both locally and internally. The quantity of water necessary is determined by the amount of offensive secretion, and varies from one pint to many, the prime object being the removal of all crusts, pus, mucus, or blood, without which subsequent medication must fail from the remedy not reaching the congested or abraded tissue. In mild or recent cases the careful cleansing, as described, of the parts will sometimes, if prolonged, effect a cure; but such success is uncommon in this intractable disease.

In long-standing and stubborn cases, after preparing the parts as suggested, a number of astringent or alterative remedies can be selected. That chosen may be employed either in solution, or, as is sometimes more efficacious, in dry powder projected on the parts by an insufflator. Snuffing the powder from the hand does not act so accurately, in consequence of much of the medicament being either detained anteriorly by the turbinated bones, or, having passed them, being drawn into the lower pharynx. Alum, bismuth, cubebs, tannic or gallic acid, with, if thought proper, ferric, cupric, or zincic sulphate, will act admirably in many cases. Granulations or adenoid tissue, if excessive, may be removed, when accessible, by the curette or galvano-cautery. I have not observed distinct patches of ulceration as often as the literature of the subject would imply their existence, except in caries or necrosis of the bones of the nasal passages (or flues, as a locomotive-building patient of mine aptly interprets them), any apparent abrasion being generally diffused; but should examination detect areas thus affected they should be stimulated or cauterized, as required, by strong solutions or the solid silver nitrate. Glacial acetic acid is a favorite with me in such instances, and tincture of iodine frequently acts admirably. Loose portions of bone or easily-detached pieces should be carefully removed, and a very small spicula will, if overlooked, be often productive of continuous discharge. I have not performed Rouge's operation in any case of catarrh, but some time ago, in assisting a friend in an operation on the upper maxillary, the feasibility of reaching the nares by that method was very apparent, and in a second operation on the same patient by myself I removed another part of the superior maxillary and a portion of the vomer, without dividing the upper lip or cheek, as had been done in the previous operation. The rapidity of union without any suppuration was remarkable, and the freedom from scar or deformity by this method is invaluable.

Attention to the general health is of moment. The secretions of the alimentary canal, the kidneys, and the skin should be inquired into, and placed in proper condition if defective. I have found the Turkish bath a most efficient auxiliary in all stubborn cases. The constitutional remedies employed will vary as indicated by apparent dyscrasia. Mercuric bichloride is notably a tonic and alterative in many cases, even where syphilitic complication is not evident. I usually combine the alterative selected with compound fluid extract of stillingia, in drachm doses, three or four times daily. When well borne, copaiba, long continued, is of great service. Ferric iodide, with or without potassium iodide, and sometimes calcium chloride, are excellent in chronic scrofulous cases. Iodoform has not been of much use in my hands, either locally or constitutionally, nor has carbolic acid. As to salicylic acid or its salts I cannot yet form an opinion of their merit, although as a detergent the sodium salicylate is apparently good.

Of all therapeutic remedies I value none more highly than electricity, which convinced me of its value through the importunities of a patient whom I was treating at the time for myalgia, and who suffered badly from post-nasal catarrh. He insisted that electricity would cure his catarrh; and so it did, contrary to my opinion. It cannot, of course, be relied on in every case, but it is a valuable adjunct. Either the galvanic or the faradic current may be necessary,—sometimes both,—but the induced current appears to be the most generally applicable, and it is much the more easily managed of the two, besides being less liable to produce giddiness in those highly susceptible. Care must be exercised in galvanization, from the proximity of the basilar brain. Extremely interesting illustrations might be given in this connection did not brevity forbid.

Diet is all-important. It should be nutritious, but all veal and pork compounds must be tabooed, with all indigestible substances. Tobacco is undoubtedly highly injurious. The so-called grape-cure acts a good part, especially in those who can afford the expense of living at the vineyards.

Much more might be said and many particulars present their claims upon our attention, but your patience has been taxed already. Disagreeable as such patients are to handle, it is our duty to exert our utmost ability in their behalf, not only for their personal welfare, but for the comfort of their families and society at large. Other formidable maladies have succumbed to medical skill, and why not that under consideration? It lies within the power of gentlemen such as compose our Society to do much in this direction, and assuredly the need is urgent.

Although I purposely refrained from touching the causation or pathology of post-nasal catarrh, one point which has interested me may be alluded to in closing, which is the belief in my own mind, from close observation, that under certain conditions the disease is contagious, even when positively non-syphilitic. I have repeatedly seen it occur in newly-married persons, and where, at school, children previously entirely healthy became affected when sleeping together. In all such instances noted no hereditary tendency existed, nor were other members of the family thus diseased. I have not heard this idea expressed by others, and many whom I have consulted dissent from it, yet through indubitable evidence I do not hesitate to assert my opinion, for if it is correct we should be on our guard, and in those thus exposed remember that "prevention is better than cure."

246 North Twentieth Street, Philadelphia.

SYPHILOMATA OF THE CERVICAL DURA MATER.

Read before the Philadelphia Pathological Society, September 11, 1879,

BY CHARLES K. MILLS, M.D.,

Neurologist to the Philadelphia Hospital.

SYPHILITIC tumors of the spinal dura mater, and, indeed, spinal tumors of any kind, are sufficiently rare to give special interest to the specimens which I have the opportunity of presenting this evening. According to Rosenthal (*Clinical Treatise on Diseases of the Nervous System*, translated by L. Putzel, 1879, p. 238), an observation by him, in 1855, may be regarded as the first published example of a syphiloma of the spinal meninges, although other cases have since been reported by Potain, MacDowel, Wilks, E. Wagner, and others.

Case I.—W. H., aged 24, colored, married, for several years had been addicted to excessive venery, and twelve months before coming under observation had contracted a hard chancre. Two months after this he began to suffer with severe pain in the back of his neck, which soon became stiff and slightly twisted. These symptoms of irritation grew worse, and soon were added weakness, first of the arms, and later of the legs, with numbness and unpleasant sensations in the limbs. In six months he was bedridden.

On admission to the hospital, two months before his death, he was in a state of pitiful helplessness, bound hand and foot by disease. He was only able to sit up for a short time when fully supported. His neck was very rigid, and seemed to be shortened and sunken together. His head was held slightly bowed forward and twisted towards the right, any movement of it causing him great pain. He often felt as if he was being choked. He complained of dimness of vision. Both arms were much wasted, the legs, however, showing but little atrophy. He could not lift either hand from the bed, and could only bend the lower limbs slightly at the knees. The left side was possibly a little bit less helpless than the right. Electro-contractility was preserved. Sensation was diminished in both upper and both lower extremities, but was not mapped out. The slightest irritation of the skin would cause his legs to jerk violently. The thighs, apparently spontaneously, would sometimes assume a semi-flexed position to the pelvis, from which he had no power to release them; they would have to be straightened by the attendants. His evacuations were involuntary, and incomplete priapism sometimes occurred. His sufferings could only be palliated. He continued to grow worse. Every night, and often during the day, he was attacked with severe pains in his knees and ankles. No acute bed-sores made their appearance, but several small ones, from pressure, formed at different points. On a number of occasions he had most distressing paroxysms. He would all at once be seized with a sense of choking and terrible dyspnœa, and would have to be propped and held up in bed; at the same time, profuse perspiration would break out. He finally died in one of these attacks.

The following was his temperature record for the two weeks preceding his death, the observations being made in the right axilla every morning and evening, the first temperature after the date being in each case for the morning:

October 7, 97.6° F.; 97.4° F. Oct. 8, 98°; 99.6°. Oct. 9, 98°; 99°. Oct. 10, 97.9°; 98.5°. Oct. 11, 97°; 97°. Oct. 12, 97.7°; 97°. Oct. 13, 98°; 97°. Oct. 14, 100.5°; 100°. Oct. 15, 97°; 97°. Oct. 16, 97.5°; 98°. Oct. 17, 97.6°; 101°. Oct. 18, 97.4°; 98°. Oct. 19, 97°; 98.8°. Oct. 20, 99.4°. The average temperatures for the two weeks were: morning, 97.9°; evening, 98.3°.

Antisyphilitic remedies, rest, leeches, anodynes, and respiratory and cardiac stimulants were among the measures employed in the treatment of the case.

A post-mortem examination of the brain

and spinal cord was made. The floor of the fourth ventricle, the corpus quadrigeminum, and the choroid plexuses were apparently congested, being redder than usual; otherwise, the membranes and substance of the brain presented nothing abnormal.

On cutting through the vertebral column, a quantity of pus, and of pus mixed with blood, escaped from the spinal canal, particularly from the right side at the level of the third and fourth cervical vertebræ. The inner faces of the anterior segments of the second, third, and fourth cervical vertebræ were eroded and partly carious, the intervertebral cartilages being also partly destroyed by disease.

On the external surface of the dura mater, for a distance of two and a half inches in the upper and middle cervical region, was an exudation or growth, with an uneven, irregular surface, from one-fourth to one-third of an inch in greatest thickness: it was distributed so as to girdle the cord, but was most developed in front. The inner surface of the membrane was smooth, and the cord within the limits of the diseased dura was flattened. The cervical nerves passing through the membranes were compressed and atrophied.

Nearly in the centre of the anterior aspect of the cord, about the level of the third cervical vertebra, was an oval or bean-shaped spot of bulging, half an inch long and one-eighth of an inch wide. It seemed to be defined from the surrounding tissue, looking like a small intra-medullary tumor. The cord above and below it was softer than elsewhere. Three inches above the cauda equina was an exactly similar, but smaller, eminence.

Sections were made at intervals in the cord, and it, with the membranes and diseased mass, was examined microscopically by Dr. H. F. Formad, to whom I am indebted for the following report:

"The thickening situated on the cervical portion of the dura mater was shown by the microscope to be an organized new growth, made up of embryonic connective-tissue cells, those of round shape predominating, and containing also giant cells and blood-vessels with distinct walls. This structure, and the situation of the growth, in the presence of a specific history, indicate it to be a syphiloma (gumma). The adventitia of the blood-vessels of the dura mater was very much thickened, and in some places the walls of the vessels had a glistening, homogeneous aspect, resembling that of amyloid degeneration.

"Transverse sections of the cervical portion of the spinal cord showed a total transverse sclerosis, the neuroglia being greatly increased, and the medullary sheath of the nerve-tubules nearly completely atrophied. The blood-vessels, which all had thickened walls, appeared to have undergone in many places amyloid degeneration, and in their course were seen numerous miliary hemorrhagic infarctions. Some of the latter were converted into minute abscesses, containing, besides pus, also compound granular cells and corpora amylacea. They sometimes reached the size of $\frac{1}{200}$ of an inch. The gray matter of the horns was comparatively less affected; some of the ganglionic cells were partly atrophied, while others appeared hypertrophied.

"The central spinal canal was seen to be filled with lymphoid cells imbedded in a reticulum of delicate fibres. I have met with such obliteration of this canal by cells several times, and it is probably of not rare occurrence in sclerosis; it is, however, described only once by Frommaun (*Untersuch. über die norm. u. pathol. Anat. des Rückenmarks*, June, 1867).

"In sections made from the dorsal portion of the cord the sclerosis was only in the lateral and posterior columns; in the lumbar region, in the posterior only.

"The bean-shaped eminences, or areas of bulging, situated anteriorly in the cervical and lumbar cord, did not differ essentially in histological character from the structure of the cord itself in these locations, being composed entirely of connective-tissue elements."

Case II.—H. J., aged 31, colored, married, was admitted to the Philadelphia Hospital August 26, 1879. The history obtained from herself and friends was that in the preceding May she had been taken with a feeling of stiffness and pain in the neck. The pain radiated upwards to the head, and, to a less extent, down her back and arms; it was greatly aggravated by any kind of jarring or jolting; she suffered so much in this way that she soon became unable to ride in the cars. She lost flesh and became weak, but did not become distinctly paralyzed until two weeks before she was brought to the hospital. At this time, while attempting to dress herself, both arms suddenly fell powerless into her lap. The next day she could not stand, and since she had been completely helpless from the neck downwards.

On examining her, I found that she was compelled to lie constantly in one position on her back. She could not sit up at all, even with the amplest support. Her head and neck were held perfectly rigid, the face looking a little to the right, so that she rested on the right posterior portion of the head. Any attempt to change this position caused extreme pain, which shot upwards to the head. Both arms were entirely helpless. She was able to pull up the right leg so as slightly to flex it at the knee, but she could not do this with the left. She could perform movements with her feet, but with diminished facility. Roughly tested with the æsthesiometer, sensation seemed to be pretty good, but her answers in regard to the distance apart of the compass-points were uncertain and confusing. Reflex twitchings of the legs were produced when the points were brought in contact with the skin. The patella reflexes were present on both sides, but not exaggerated; the response on the right was poorer than on the left, the latter being about what is usually found in health. When first examined, on the day of admission, she had full control of her bladder and bowels. She had been troubled more or less for several weeks with shortness of breath, and three days before coming under observation she had had a severe paroxysm of respiratory difficulty, in which she thought she was "dying away." The attack was accompanied by profuse perspiration. Her pulse, recorded on the 26th, was 84, weak, but not intermittent.

Treatment was instituted, but without much hope, as the patient was, when admitted, evidently in the last stages of slow compression of the cervical cord. Her bed and pillows were so arranged as to give her head and body as complete rest as possible, and among the other measures adopted were leeches to the nape of the neck, potassium bromide and iodide in combination internally, hypodermic injections for the relief of pain, an ointment of belladonna, iodine, and mercury locally, and belladonna, digitalis, and ammonia for the paroxysms of dyspnœa and exhaustion. Fluid and semi-solid food was also frequently given. She grew worse from day to day; she was often bathed in profuse perspiration; dyspnœa and cardiac irregularity and weakness became greater, and she died, exhausted, August 31, five days after admission. Her temperatures, taken on the evening before her death, and on the day of her death, were as follows:

	Right axilla.	Left axilla.
August 30,	100° F.	102.2° F.
" 31,	99.4° "	99° "

A post-mortem examination was made twenty-three hours after death. Post-mortem rigidity had not taken place to any marked extent, except in the fingers. No decided wasting of the body or limbs was present. The muscles of the neck were completely relaxed.

I carefully dissected away the extravertebral tissue,—muscle, fat, etc.,—to ascertain whether any disease outside of the vertebral column existed; but no evidence of such could be found,—no exudation, suppuration, or signs of inflammatory action. The spinal cord and membranes were examined in position after sawing through and removing the posterior portion of the vertebral column. On the left side of the cord, outside of the dura mater, a layer of dark, clotted blood could be seen, reaching upwards from the fifth cervical vertebra nearly to the upper limit of the cord. Externally, the upper portion of the dura for a distance of more than two inches was the seat of an irregularly-flattened exudation or growth, which was found on removal of the cord and membranes to be thickest to the left, in front and above. In the upper part of this diseased mass, at about the level of the second cervical vertebra, was a small dark clot about the size of a half-dime. The inner surface of the dura was smooth, but more opaque than usual. After removing the cord and membranes the cervical and dorsal vertebræ were examined minutely, but nothing abnormal was found except a very slight roughening of the adjacent borders of the inner surfaces of the anterior segments of the second and third vertebral bones.

The upper cut end of the cord was softened and yellowish-white in color. The cord in the upper cervical region was more flattened than usual anteriorly.

The brain and its membranes were examined. The pia mater showed signs of recent hyperæmia, particularly about the junction of the ascending parietal convolution with the inferior parietal lobule. No other organs were examined.

A microscopical examination of the thickening of the external dura mater, made by Dr. H. F. Formad, showed it also to be a syphiloma, similar in structure to the specimen from the first case. Sections from the cord below showed likewise a transverse sclerosis.

Remarks.—Case I. is an example of an interesting compound condition: caries, probably syphilitic, of the vertebræ; syphiloma of the external dura mater; compression of the cord at the level of the tumor; sclerosis of the cord below the growth, at two points so marked as to appear almost like intra-medullary gliomata. In Case II. we have a syphiloma of the external dura mater, with compression of the cord and transverse sclerosis; and, in addition, dural hemorrhage, probably intercurrent with the growth. Disease of the bone was not present in this case. In regard to the first case, we have good authority for the view that syphilis may cause vertebral caries. The sclerosis of the cord below the tumor was doubtless of the nature of secondary degeneration.

During life I supposed that the first case might be one of external spinal pachymeningitis, or spinal peri-pachy-meningitis, consecutive to, or in connection with, caries of the vertebræ. Such cases have been described by E. Wagner, Michaud, and others. They sometimes follow traumatism. Sometimes inflammations extend from the exterior through the intervertebral foramina.

Caries of the upper cervical vertebræ, as the specimens show, was, indeed, present. The probabilities are, however, as we have here an undoubted syphilitic thickening or gummy growth on the external layer of the dura mater, that the vertebral disease was also syphilitic.

In regard to etiology and symptomatology, my remarks upon these cases will be brief. In the first case, the patient had a clear history of chancre; in the second, although no history of syphilis was obtained, the antecedents and surroundings of the patient were such as to make it probable that she had been infected. Both cases were striking illustrations of cervical paraplegia from compression-myelitis. This condition may arise in various ways, among which it is necessary to distinguish, if we would treat cases satisfactorily. It may be due to disease or injury of the vertebral column; to peri-meningeal, meningeal, or spinal growths; to wounds of the cord; to hemorrhage; to internal spinal pachy-meningitis; to disease affecting bilaterally the peripheral nerves; and to other causes.

In both cases the arms suffered first and most severely; in both sensation was impaired, but not to the same extent as motion. In the first case the tendinous reflexions were not examined, but skin reflexes were increased; in the second, the patellar reflex on one side was probably diminished, the other being about normal. The diminution in this case may have been due to the destruction by descending degeneration of the gray matter of the cord below the seat of the lesion. The tendency to priapism present in the man is of interest in reference to the question of the existence and position of a centre of erection in the cord. Several cases have been reported in which disease or injury of the cervical or upper dorsal region has given rise to priapism, it is supposed by some, from irritation of a spinal centre of erection. The respiratory paroxysms were among the most distressing manifestations. Cases of both cervical and dorsal disease often suffer from respiratory disturbances, and not infrequently, as in those now reported, die during such attacks, apparently from respiratory and cardiac paralysis. Occasionally, as in a case recently observed by me but not yet reported, asphyxia is produced by spasm of the muscles concerned in respiration. Usually profuse perspiration accompanies these seizures, probably showing implication of vaso-motor as well as respiratory nerve-paths and centres. The results of the temperature observations in the first case, although not remarkable, are worth recording. The temperatures generally and the average temperatures were below the normal. Wonderful oscillations of temperature have occurred as the result of spinal lesions, and particularly those of the cervical spine.

AN EXPERIMENT IN DISINFECTION OF A SAILING-VESSEL BY STEAM.

BY RICHARD A. CLEEMANN, M.D.,

Member of the Board of Health of Philadelphia.

IN the last number of *The Sanitarian* the editor, Dr. Bell, gives an abstract of some papers published by him bearing upon the subject of disinfection by heat, and at the conference of the National Board of Health with sanitarians from various parts of the country, held in Atlanta, Georgia, last May, he spoke, going over much of the same ground, very decidedly in favor of the disinfection of vessels by steam. Many advantages of such a scheme at once suggest themselves: among others, the materials to be employed, fuel and water, are constantly at hand; the steam is harmless to many things carried in ships, and it cools rapidly when the disinfection is discontinued, so that the vessel becomes almost immediately again habitable.

Dr. Bell maintains that the plan is entirely practicable, basing his opinion upon the experience of four vessels in which it was tried (the sailing-vessels "Vixen" and "Mahories," and the steamers "Delaware" and "Don"), and upon the results of some interesting experiments made to determine the degree of heat that could be attained by introducing steam into closed chambers.

This testimony, however, is not entirely unassailable.

All the vessels had had yellow fever on board, were filled with steam, and thereafter were free from the disease; but the "Vixen" was not treated in this manner until after the season had passed during which yellow fever ceased to prevail; and it was also thoroughly cleaned and painted: so that, as far as this vessel is concerned, the argument is open to the objection that the fever may have died out spontaneously or else was exorcised by the scrubbing and painting without the aid of the steam. The cases of the other vessels are stronger; but three is a small number to lead to a positive conclusion.

A degree of temperature sufficiently high to destroy the supposed germs of yellow fever was undoubtedly reached in the rooms which he packed with steam, but these chambers, surrounded as they were by air, were in a measurably different condition from the interior of vessels, the sides and bottoms of which are floating in so excellent a heat-conducting medium as water. To obtain additional data on the subject, I proceeded as follows, being kindly assisted by the port physician, Dr. Leidy. Steam was introduced from the boiler of a tugboat into the hold of a vessel, on the sloping floor of which a self-registering thermometer had been laid. The vessel was the "Clara E. McGilvery," a ship of four hundred and three tons register, which arrived at Philadelphia 30th of September. The steward had died during the voyage from the West Indies of an unrecognized fever, and one of the crew, who was taken sick after his arrival in this port, died of yellow fever at the Municipal Hospital. The cargo of sugar had been removed from the vessel, and she lay at anchor in the open stream. The tug—the one used for the visits of the port physician—has an engine of fifty-horse-power; it was fastened close alongside the ship; the pipe leading from the boiler to the safety-valve had been tapped near its base, and an arrangement made by which a rubber hose was attached to it; this hose, two inches in diameter, passed up over the side of the vessel and was let down into the hold through an opening bored in the main hatch; it was long enough to reach nearly to the keelson, and was fastened at its end to an upright post to prevent it from swinging about under the impulse caused by the escape of the steam. The self-registering thermometer, the scale of which began at 100° Fahr., was placed about twenty feet distant from the mouth of the hose, on the floor of the vessel, as said above. Care was taken that the hatches were well closed and covered with tarpaulin. The steam was now allowed to enter the hose, the pressure of the steam-gauge in the engine-room marking sixty-two pounds; in ten minutes the pressure had fallen to forty pounds, when the steam was shut off for an interval of seven and a half minutes, after which the pressure had risen to sixty-one pounds. Again the steam was allowed to pour into the vessel, this time for the period of an hour consecutively; after half an hour the indicator on the steam-gauge marked thirty pounds, and at the close of the hour only nineteen pounds. A few minutes after the steam was shut off, when, the hatch being raised, the vapor was sufficiently dissipated to allow me to see, I descended into the hold; there was a little water from the condensed steam alongside the keelson, and the temperature below still uncomfortably hot; I was very much disappointed to find that the mercury in the thermometer had not reached 100° Fahr. The attempt at disinfection was a failure. Without doubt a thermometer *suspended* in the interior of the ship would have shown a very high temperature, perhaps sufficiently high to destroy any disease germs, but it is altogether probable that the poison of yellow fever floats in the bilge-water and clings to the sides and bottoms of the hold, and it is not to be expected that a heat there of less than 158° Fahr. at the very least, the point at which a concentrated solution of albumen will coagulate, would be fatal to the fever-germ.

The above experiment is recorded not in opposition to the scheme of the disinfection of vessels by steam, but as showing that the process is a serious one, and needs for its success a boiler in which a large amount of steam can be generated rapidly. It would lead me to be sceptical of the efficacy of the plan in any particular case in which it had been applied, unless the temperature of the sides or bottom of the ship had been tested with the thermometer and found sufficiently high; and it causes me to hesitate to subscribe to the opinion that "with an engine equal to those commonly in use in the tug-boats in the harbor of New York, in three hours' time a sufficient degree of steam heat can be thrown into any ship to disinfect it of yellow fever."

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NOTES OF HOSPITAL PRACTICE.

HOSPITAL OF THE JEFFERSON MEDICAL COLLEGE.

CLINICAL SERVICE OF DR. J. C. WILSON.

A CASE OF RECURRENT PLEURISY.

THIS patient, J. H., 23 years old, a bag-sewer, has been under our observation a long time, otherwise his present illness would not warrant more than a few words concerning the diagnosis and treatment of dry or plastic pleurisy. A week ago, while working at his trade, he suddenly, on stooping, felt a sharp pain in the back, at the base of the left chest. This pain continued to annoy him on movement and on taking a deep breath. That night he had chilly sensations and fever. The next day there was slight cough, with a trifling mucous expectoration and provoking pain. He now had to give up work, and applied at the dispensary of the hospital for treatment. He had slight fever, and, on auscultation, coarse friction-sounds were heard, not at the base but across the middle of the left chest, in front and behind. He was directed to apply a blister, and to take Dover's powder with nitre, along with full doses of quinine. This was four days ago. To-day he is much better. There is scarcely any pain, even on taking deep inspirations. He does not cough, and he is quite free from fever. There is, however, no appetite, and he says he is weak. Observe his tongue. It is thickly covered with a foul, yellowish-brown fur. We are, then, studying together a case of dry pleurisy, now fully convalescent, after a few days' treatment.

But let us strip our patient's chest, and examine it closely.

To the most unpractised eye the difference in the two sides of the thorax is apparent. The left shoulder is lower than the right; the left side is smaller, and fails to expand as freely as the right on inspiration. It is flatter, and this flatness is most obvious below the nipple and to the left of it. Moreover, you perceive that the visible impulse of the heart is displaced. It is seen a little to the left (outside) of the nipple-line, and, upon inspecting the spine, it is seen that there is a lateral curvature in the upper dorsal region, the concavity of which looks towards the left. We percuss the chest, and find the right side fully resonant, the left slightly dull, or, at all events, much less relatively resonant, save above the fourth rib; and, on auscultation, we hear an occasional coarse friction-sound, and everywhere a feeble respiratory murmur, notably feeble in comparison with that of the right side.

Surely, you ask, all this is not the result of his present attack? Certainly it is not; and herein lies the clinical interest of the case.

More than four years ago, this man, then a telegraph messenger, had an attack of sickness in many respects resembling this one (he had, in fact, a pleurisy); but, instead of an exudation of plastic lymph, there was an effusion of serum. This fluid remained in his chest more than two years, during which time, he tells us, he was very wretched, and quite unable to work for his living. At the end of that time he came under our care, and I drew off, by aspiration, more than five pints of slightly-turbid serum. This operation was performed before the class, and the patient walked to his home. He rapidly improved in every respect, and thought himself well for a time; but eight months later the effusion reaccumulated and was again removed. Since then his health has been good.

The alterations in the chest—deformities we will call them—are the result of his old trouble. Upon the removal of fluid from the pleural sac, the space it occupied is obliterated by an approach of the opposite walls of the cavity that contained it towards each other; the diaphragm rises, to some extent; the lung expands, but not to its normal fulness; and the chest-wall falls in. The costal and pulmonary pleuræ, coming in contact, unite, and the lymph which covers their surfaces becomes connective tissue, which contracts, displacing the heart to the left, flattening the chest, and even bending the spinal column, as you see, towards the affected side. You will be often able to diagnosticate a long-healed pleural effusion by an inspection of the chest.

At the time of his first attack this man was in poor health; the product of the inflammation was fluid serum. He has been strong and well till the present attack; the product is now plastic,—it is lymph. The friction-sounds are high up in the chest, for the reason that the pleural surfaces below their seat are adherent. There is but little room for effusion in this sac, diminished as it is by such adhesions.

The nature of the product of inflammation in pleurisy is determined, in great part, by the general health of the patient. If he be in robust health, and his blood well elaborated, it will consist of plastic lymph; if he be feeble or anæmic, a serous outpour will take place; whilst in conditions of cachexia, or if the scrofulous or tubercular diathesis be present, we may have an effusion purulent from the outset, —an empyema.

The local pleurisies of phthisis are not primary; they are secondary to processes in the lung, and they are plastic, resulting in adhesions which are often very thick. On the other hand, the pleural *effusions* that I have met with in individuals suffering from phthisis have all been purulent.

TRANSLATIONS.

The Etiology of Puerperal Vesical Catarrh.—Schwartz (Inaug. Diss., Halle, *Cbl. f. Chir.*, No. 39, 1879) considers catarrh of the bladder occurring in puerperal women due to infection. Neither injuries during labor, nor repeated introduction of the catheter giving rise to mechanical irritation, can be regarded as exciting causes. Nor can retention of urine, for decomposition of the urine does not result from this. According to Schwartz, the causes of puerperal catarrh of the bladder are (1) the introduction of fermentative material by means of the catheter, and (2) the spontaneous extension of inflammatory processes from the neighboring parts to the vesical mucous membrane. In 32 cases coming under his notice at Halle, the most part occurred from the first of these causes, only two being traceable to extension of inflammatory action from neighboring parts, and nine being of uncertain origin. Catarrh of the bladder, therefore, is not particularly liable to affect puerperal women who have had a hard labor, but those who have been catheterized.

Antiseptic precautions, especially preventing the entrance of air, by filling the catheter with carbolic acid solution before its introduction, protect the patient effectually. Since 1875, when these precautions were adopted in the Halle lying-in clinic, puerperal vesical catarrh is one of the rarest accidents.

Calculus of Wharton's Duct—Influence of the Rheumatic Diathesis—Salivary Colic at the Menstrual Epoch—Extraction of the Calculus—Continuation of the Symptoms.—Chevallereau (*La France Méd.*, No. 76; from *Cbl. f. Med.*, No. 39, 1879) gives the case of a woman, 44 years of age, of rheumatic antecedents, who had noticed during several years previously, for five or six days before the menstrual period, a sudden pain in the left side of the mouth, which disappeared when the menses began to flow. At the beginning of the climacteric year, menstruation appearing three times within a single month, she sought medical aid. The pain had lasted eight days; the tissues at the floor of the mouth were much swollen, the patient being able to eat but little. In addition, the mucous membrane of the mouth was tumefied; the duct of Wharton was patulous, and gave exit to a muco-purulent secretion. Examination with the sound showed a stone four centimetres within the opening of the duct. An incision being made and the stone extracted, it was found to be four to five centimetres in length, bean-shaped, uneven in surface, yellowish-white in color, and composed of tribasic phosphate of calcium. A curious circumstance was the persistence, though much mitigated, of the pre-menstrual pain, due, Chevallereau thinks, either to the formation of a new stone or to the menstruation alone.

Chronic Myositis. — Gies (*Deutsche Zeitschr. f. Chir.*; from *Cbl. f. Chir.*, No. 39, 1879) saw a painful diffuse swelling, hard to the touch, develop during four weeks in the lower half of the thigh, in a man of 48. Treatment, internal and external, had little effect. An incision showed the muscular structure firm, hard, and waxy to the bone. The diagnosis of rheumatic induration of the muscle was made. Massage was followed by cure. The author gives the literature of myositis.

Syphilitic Deformities of the Cranium in New-Born Infants.—M. Parrot (*Le Progrès Méd.*, 1879, p. 629) describes a deformity of the cranium in very young infants, the subjects of hereditary syphilis, which he regards as characteristic. One or two months after birth, the presence of osteophytes, developed more particularly about the fontanelles, may be observed. These increase in size, and end by producing a deformity of the cranium so typical that the presence of syphilis may be inferred in infants who fail to show any lesion of the cutaneous or mucous surfaces.

An Unusual Fracture of the Femur, with Pseudarthrosis—Operative Treatment of Fracture of the Neck of the Femur.—Trendelenburg, at the recent congress of German surgeons (*Cbl. f. Chir.*, No. 39, 1879), described the case of a man, 56 years of age, who, nineteen weeks previously, had suffered an oblique fracture of the femur, penetrating the knee-joint, and resulting in a false joint. The limb could be lengthened and shortened, and it seemed as if the point of the upper fragment could be moved about in the knee-joint. Trendelenburg opened the joint by Langenbeck's resection procedure, extracted a bit of the capsule, which had become wedged between the fragments, and riveted the latter together within the joint with an ivory peg. The wound healed without reaction, the bones consolidated, and the joint retained its mobility.

Fortified by the now ascertained fact that joints can be opened without danger when antiseptic precautions are employed, Trendelenburg took up the old notion of Langenbeck, that in cases of intracapsular fracture of the neck of the femur a long incision, as if for resection, could be made, and, the capsule being opened, the fragments of bone could be fastened together by means of ivory pegs.

At the same meeting, Langenbeck spoke of the case of a pseudarthrosis of the neck of the femur following fracture, in a person 50 years of age, which he had treated in a similar manner. The trochanter was laid bare by a small incision and then a hole bored through and through both the neck of the bone and the fragment, and the ends were fastened by means of a silvered screw. Unfortunately, hospital gangrene supervened and carried off the patient.

Physiological Effects of Formiate of Sodium.—Arloing (*Acad. des Sci.*, *Bull. Gén. de Thérap.*, September 30, 1879, p. 277) finds that if formiate of sodium is gradually introduced into the veins of the dog or horse, the heart beats more slowly, the capillaries of the lungs and of the circulation generally dilate, arterial pressure is diminished, and the diastolic or constant rapidity of the course of the blood in the vessels is augmented in the centrifugal ones. A large dose causes acceleration of the heart's action, while the systole loses its energy. If the formiate of sodium is introduced in very large amount into the interior of the right ventricle, it produces slackening or arrest of the heart's action. This arrest may be permanent, or, if the dose has not been too large, may be succeeded by the phenomena produced by ordinarily large doses.

Small doses augment the number and amplitude of the respiratory movements. Medium doses lengthen the respiration and cause a succession of quick movements, separated by deep inspiration and prolonged expiration. Large doses accelerate the respiratory movements and diminish more and more their fulness. Very large doses produce a short arrest in expiration; the respirations soon recommence with great rapidity and gradual increase in fulness. After twenty or thirty seconds these are replaced by slacking and diminution in fulness of the thoracic movements, with a tendency to pause at expiration.

Formiate of sodium is toxic in the dose of fifteen grains to every two pounds of the animal, the respiration becoming rapid and the heart slow.

Formiate of sodium causes a decided reduction in animal temperature, and may be used instead of salicylate of sodium, because it does not, like the latter, cause congestion of the kidneys and changes in the heart.

Sulphate of Zinc and Alcohol in Fungous Synovitis.—M. Le Fort (*Soc. de Chirurgie*, *Bull. Gén. de Thérap.*, September 30, 1879, p. 281) has for several years past made use of injections of alcohol and sulphate of zinc in white swelling of the knee. In one case, where the knee-joint was full of fungosities, and the plaster splint, tincture of iodine, and the actual cautery had failed to give any good result, a twenty-per cent. solution of sulphate of zinc, in the proportion of eight drops to three quarts of alcohol, injected in small quantity and repeated a number of times, produced a cure. M. Després thinks this method is not permanent in its effects. He injected iodine in one case successfully, but the patient returned five years later with the knee-joint full of osteophytes.

Congenital Absence of the Spleen.—Koch and Wachsmuth (*Le Concours Méd.*, 1879, p. 81; from *Berlin. Klin. Wochens.*) cite the following curious case observed in the hospital at Altona. A man of 40, attacked by typhoid fever, was examined with a view of confirming the diagnosis by percussion of the spleen, when dulness was found to be entirely wanting in the region usually occupied by this organ. The patient died, and at the autopsy no trace of the spleen could be found, the splenic artery also being absent. The other abdominal organs appeared quite normal.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 8, 1879.

EDITORIAL.

SANITATION IN NEW ORLEANS.

SOME of the special problems offered to the hygienist for solution are very curious. In New Orleans bats thrust themselves forward most annoyingly and most immodestly. According to a recent report of an inspector of the Board of Health, seventy-seven barrels of bats' dung were some months ago removed from the upper rooms of a certain school-house; nevertheless, under the efforts of the swarms of bats which choke up these lofts, the floors are now three inches deep with guano. The roof also leaks, and the fertilizing solution has permeated the lower rooms, until teachers and scholars are prostrated with disease.

We gather also from the report of Dr. C. B. White a very striking instance of the value of sanitation. Formerly certain groups of tenement-houses, situated in a very low portion of the Third District of New Orleans, were notorious as centres of sickness and death, the mortality among their inhabitants being excessive. In 1873 between one and two hundred of these houses were destroyed by a conflagration. In re-erecting them, great care was taken, by filling up lots with new sand, by elevating foundations, etc., etc., to overcome the natural deficiencies of the site. The result has been that, whilst in the last few years the mortality percentage of the general city has been 32.73 per thousand, in the reconstructed quarter it has only been 6 per thousand. We should think, with such a case, that Dr. White ought to be able to get his desired tenement act.

ANOTHER RECRUIT.—The good work goes on. The Detroit Medical College has announced its adoption of the three years' graded course of instruction. Each such announcement tightens the cord about the necks of all medical colleges which still require only two years' attendance and still desire to be called respectable.

CORRESPONDENCE.

LONDON LETTER.

THE session of 1879–80 has now got well entered on its way, and a number of young men are at work—hard, we hope—mastering the preliminaries of a medical education. The entry at the different medical schools has been unusually large this year; and the explanatory hypothesis of this inrush to the ranks of medicine is, that the existing depression in commerce and in agriculture has comparatively closed these avenues for a livelihood, and that a number of youths who would normally have become traders and agriculturists have cast in their lot with medicine. We have thus a proportion of freshmen who have not thought about devoting themselves to a medical career, but who turn to medicine merely as a preferable alternative to other ways of making a living at the present time. Whether such additions to our ranks will furnish much desirable material or not may not be affirmed. There is ground for a suspicion, at least, that for many of these youths medicine will never be more than the means of making a living. Dr. Coupland, at the Middlesex Hospital, seemed to be under the influence of such impression when, in his introductory address, he urged upon his audience steady industry, and insisted that if they were not ready to work earnestly they had better abandon medicine for some more congenial and less exacting vocation. Certainly there is little prospect of 1879–80 entries resulting in a "comet year" for vintage wines of medicine. It will be interesting to trace the future of the men entering this year.

At University College Hospital, Professor Thane reviewed the history of this memorable little hospital. Commencing its career modestly as the North London Hospital, it became affiliated to the college in Gower Street, and entered on a remarkable career. Something was said about the present condition of this medical school in a recent letter, and it was then pointed out how conspicuous a position it held in medical teaching. Containing scarcely more beds than are allotted to several surgeons individually at the large hospitals, the teaching of University College Hospital goes to all parts of the globe. Probably no single school has in so short a career ever before exercised such a profound influence upon medical teaching. Professor Thane looked back with pardonable and intelligible pride upon the early career of the college. The Universities of Oxford and Cambridge offered very inefficient and unsatisfactory training for medical students; for medicine has never been able to flourish under the upas-tree shade of theology at the English universities. So medicine was taken up by the more liberal and advanced University of London; and here its growth has been most vigorous and satisfactory; and its vitality is assured. The first lecture was delivered in 1828, by Sir Charles Bell, whose work on the Hand is so well known. The first chair of Pathological Anatomy was instituted here, and Sir Robert Carswell, famous for his researches in tubercle, was the first occupant. Here Robert Liston, of surgical fame, first delivered a systematic course of clinical lectures; before this time clinical teaching had been irregular and somewhat fortuitous. Of old, clinical education, such as it was, was terribly expensive, and only within the reach of the more affluent students. But a new plan was adopted here: the offices of clinical clerk, dresser, and house-surgeon were thrown open to competition, and purchase was abandoned. The excellent effects of the change were soon manifest, and the students of University College Hospital have attained a high reputation for their medical attainments. Small as this hospital is, it can not only provide itself with capital teachers, but can even help out other schools who cannot find efficient teachers in their own ranks. For long the hospital was kept alive by the teachers sacrificing their fees for clinical teaching to the hospital's needs. In this way no less a sum than £86,000 in hard money has been given to this hospital by its medical officers. And this is one strong factor in the success of this hospital as a medical school. At University College Hospital the medical staff are a power in the place. They can assert themselves, and make themselves heard upon occasion: consequently the place flourishes. Contrast it with the palatial St. Thomas's on the Thames Embankment. Imposing with its seven pavilions, conspicuous from its position, respectable from its history in the past, St. Thomas's is withering. The lay administrators are there too dominant, and possessed of too much power. The medical staff is simply snubbed; and consequently men hesitate to offer it their services. Stately as it looks, many of its wards are closed; and, what is worse, its students stand lowest in the percentage of passes at the various examinations,—the lowest of all the schools in London. That is the position to which the whilom proud St. Thomas's has been brought,—by whose sins of commission and by whose sins of omission I do not know, not having been behind the scenes, and possessing no special knowledge, hearing only the rumors which have got about from time to time, especially at the time when Robert Barnes left it for St. George's. Melancholy pervades the mind when one looks at the history of the grand old hospital and thinks of its past. It looks like an old oak with blasted branches,—a grand tree, but shrinking. Its closed ward gives it a dismal aspect, and makes the resemblance of a decaying oak most fitting. While University College is a vigorous tree, growing grandly in free air, the other is being blighted by the closeness which surrounds it. But it is unnecessary to study the pathological anatomy of St. Thomas's too closely. At University College the latest addition has been a professorship of Hygiene and Public Health, worthily filled by Professor Corfield. The lecturer said the public advantages which were anticipated from the establishment of this medical school had been realized. The character of medical education had been elevated and its range extended. He claimed for his college that the improvements in medical teaching which had taken place during the last half-century had been in a very great degree the result of the example set by it; and he claimed no more than was its due.

At King's College Hospital the address was delivered by Professor Duffin, who prefaced his special remarks by some good, solid, sensible advice to the new-comers. He then referred to the work of the medical tutor who aided them in their studies. He claimed for class examination and tutorial teaching that they not only acted like pass-examinations in protecting the public from ignorance and negligence, but that they gauged knowledge with a view to correcting deficiencies, making it thorough and accurate, and insuring that the progress is safe and sound. He then proceeded to demonstrate how a knowledge of biology, of physiology, and of pathological anatomy must precede any rational therapeutics. He said, "There is no royal road, no all-embracing theory according to which we can predicate what will be the action of any given drug, still less which will permit us to infer that such and such medicines are and must be antidotal to any given diseased state. Such crude speculations are still too rife among us, and they are eagerly caught up by a certain section of the public. They are usually the results of hasty generalizations, formed on a few physiological and pathological facts of doubtful value; they represent the desires rather than the acquisitions of mankind. Like every other science, therapeutics must be built on observation, careful, accurate, and far-seeing, and on experiment defining the conditions within which the agent to be employed is to do its work. The careful physician, although confident in the results of precise experiment, will also strictly observe its limits. Should he feel himself called upon to apply them under new or ill-defined conditions, he will do so with the utmost caution, feeling his way step by step, as the additions to his knowledge will permit." This is all very right and sound, but it appears to me that the fear is rather that men will just be so desperately cautious that they will never do anything. The additions to their knowledge made by many men are so small that if they are to be so careful about its application they will not get very far in the course of an average lifetime. Somebody must risk something if any decided advance has to be made. When I had a grain of sulphate of atropia injected all at once into the arm of a woman dying of opium-poisoning, caution, some may think, was not uppermost. Sometimes, however, in therapeutics, as in war, true caution means energetic action; and familiarity with the indications of failing respiration and circulation in animals dying from lethal doses of aconite, and with the effects of atropia in restoring the animal to life, told me in unmistakable accents that nothing but a huge dose of atropine would be of the slightest avail; and the result showed that the dose given was none too much. The woman got well, without any symptoms of belladonna-poisoning.

To follow Dr. Duffin further,—the utility of a knowledge of the physiological antagonism of drugs was then descanted upon, after which he concluded with a fling at homœopathy, which is at present in a rather languishing condition, and finding out that a little of what it has had the impertinence to call "allopathy" is very useful at times.

At the Durham University College of Medicine, Newcastle-upon-Tyne, Dr. David Drummond, Lecturer on Physiology, delivered an able and eloquent address, in which he first pointed out the value of sustained industry, and pointed to the career of the illustrious Hey, who worked ten long years before he could secure a small competence, but success came at last. Dr. Marshall Hall gave twenty-five thousand hours to the contemplation of reflex action, and that, too, when engaged in busy practice. Sir James Simpson and his college friend Dr. John Reid, afterwards Professor of Anatomy at St. Andrew's, commenced their work at an hour that would be considered rather early even by a German professor. John Hunter worked long hours, and so did Sir Astley Cooper, from the very commencement of their student career. Then he insisted upon the importance of cultivating the habit of close observation. Galen observed so carefully that he was the author of several works at twenty-one. Bichat died at thirty. Stokes was only twenty-three when he fought so stoutly on behalf of the stethoscope. He then told how William Hunter and William Cullen went into partnership in order that each, on alternate winters, could go to a medical school to study, while the other looked after the practice,—a scheme which might be more copied with advantage.

The discussion on intestinal obstruction at the annual meeting of the British Medical Association in 1878 has already borne fruit in a very satisfactory manner. Not only have operative measures been more generally adopted, but the peritoneum is found to behave itself very much better nowadays than it used to of old, when it had a very bad reputation. Any injury of the peritoneum was thought to entail imminent danger, but now it is sponged out without provoking inflammation even. Mr. Jessop, of Leeds, enters an indignant protest against the application of the term "unjustifiable" to exploratory incisions of the abdomen in obscure cases. In cases that are in their nature necessarily fatal, he argues, the operation cannot further endanger life, and the operator has the satisfaction of knowing this. In other cases immediate relief can be furnished where nothing short of operative measures are of the slightest avail, as where a band of organized lymph encloses a coil of intestine; his experience at the post-mortem table telling him that several cases there met would not have come there had an exploratory incision been made and the cause of obstruction removed.

Dr. Jacobson, of Guy's Hospital, relates a case which, however, terminated fatally ten days after operation: nevertheless he advocates the adoption of operative measures. He thinks that what betwixt recent great advances in the surgery of the abdomen and the progress of antiseptic surgery, operative measures for the relief of intestinal obstruction will become quite common, and will furnish most beneficial results in many cases. Even where it is not necessary to make an incision in the abdominal walls, operative measures, including liberties taken with the peritoneum, may be indicated. Thus, Dr. Broadbent relates a case where puncture of the small intestine gave great relief in a case of intestinal obstruction in an elderly lady. A shrivelled ovarian cyst constitutes a tumor in the right inguinal region, which presses upon the bowel. In consequence of this she has several times suffered more or less severely from intestinal obstruction. At last an obstruction had persisted for three weeks in spite of opium and belladonna, and it was determined to puncture the intestines with a long aspirator needle. The aspirator was used at first, but soon was found unnecessary. An enormous amount of gas escaped, giving the patient great relief. Two days later, fæces and flatus began to pass naturally. A few months later, a similar attack came on, and, after some days of unsuccessful medicinal treatment, at the patient's earnest request punctures were again resorted to, with excellent results. The discharge of gas was followed by a copious evacuation during the subsequent night. A third time puncture alone could afford relief. Dr. Broadbent has used such puncture of the abdomen in several cases, and so far has not seen any injurious result follow therefrom. He, however, observes several precautions. 1. He lessens peristaltic action by a full dose of opium, while no food is given for some time before the operation. 2. He selects a coil of intestine which contains gas only, and not liquid. 3. He pierces the coil exactly at its most convex part. The spot chosen for the puncture should be as nearly as possible over the centre of a coil which does not roll about, and, by preference, in the linea alba. 4. He exercises great care and patience during the escape of the gas. As the gas escapes from the coil selected for puncture, it will collapse under pressure from neighboring coils, and the flow through the needle will cease. Very soon, however, the air in the intestine will distribute itself and enter the empty portion, when it will again escape. It is better not to put on a bandage. He concludes by suggesting that such puncture may often usefully precede other operative measures, as inflation, taxis, etc., when the gut is imprisoned.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the hall of the College of Physicians, Philadelphia, September 24, 1879, Dr. Henry H. Smith, President of the Society, in the chair. The paper of the evening, on "The Treatment of Post-Nasal Catarrh,"* was read by its author, Dr. W. R. D. Blackwood, to whom a vote of thanks was unanimously tendered by the Society for the interesting and practical manner in which the subject was presented.

Dr. Carl Seiler had seen a large number of cases during the last two years at the dispensary service of the University of Pennsylvania and elsewhere, and had never met one where there was such a deformity of the septum as to require a surgical operation for the relief of post-nasal catarrh. He quite agreed with the writer of the paper, that the instruments needed are very few and simple. A nasal speculum, a laryngeal mirror used in a reversed position, and perhaps a wire loop to hold the uvula to one side, are all the instruments needed for an ordinary examination.

He condemned the frequent use of strong applications, which should be resorted to only where there are abrasions or spots of ulceration; they are not beneficial when made to the whole mucous surface. In regard to the nasal douche, he would not think of depending upon it as a remedy; it is simply a means of cleansing the nasal passages. It is true that disinfecting solutions can be used in the douche, but it should not be relied upon as a substitute for local applications to special portions of the membrane. In making these applications he disliked cotton, as it allows some of the fibres to remain and keep up the irritation. In a number of cases he had noticed that the inflammation appeared to be located principally around the Eustachian openings, and applications carried directly to this spot were followed by good results.

Dr. S. D. Risley had noticed that cases of chronic aural catarrh are frequently associated with disease of the vault of the pharynx and deformities in the nasal passages; in some cases this latter condition was so marked that he had been unable to introduce his Eustachian catheter through the nasal chamber. He had not noticed the connection between the two disorders until it had been pointed out by Dr. Allen. He was thoroughly convinced now that in the great majority of cases of this chronic catarrhal trouble the cause is in deformities of the nasal chamber, chiefly a deflection of the vomer, which slight in health may be more marked when swollen by inflammation. If the swelling be sufficient to bring the septum in contact with the turbinated bones, the particles of dust inhaled remain on the surface and keep up the irritation, and eventually ulceration is produced.

In the treatment he prefers the post-nasal syringe to the nasal douche. Ulcerated spots must be sought for and treated, and the cases will then recover; but until the trouble in the nose is also removed he had been unable to relieve aural catarrh permanently. He mentioned a case of obstructed tear-duct, in which this deviation of the septum was present to such a degree as to bring it in contact with the middle turbinated bone; the opposing surfaces were ulcerated. With a few applications the case recovered. The lachrymal obstruction got well without further treatment. In another patient, an old gentleman, there were nervous symptoms, which led him to make an ophthalmoscopic examination, when he found the appearance of descending neuritis; there was also a free secretion from the nasal passages, and a slight cough. The patient was given iodide of potassium and bichloride of mercury, under which he greatly improved. In the course of a few months he came back with tinnitus in both ears and cerebral symptoms returning. Upon examination of the nose, ulcerated surfaces were found which evidently kept up the trouble in the Eustachian tubes. Under appropriate local treatment the tinnitus disappeared in about two weeks, and the patient became entirely well. He had previously been using the nasal douche for several years without advantage. The speaker gave, as the result of his observation, that the nasal passages should always be examined in cases of aural catarrh. In reply to a question from the chair, he said that where the septum is deflected to one side there is a corresponding depression on the other side.

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* See page 55 of this volume.

Dr. Henry H. Smith said that where no depression occurred, there might be a separation of the lamina of the septum.

Dr. Seiler reported a case in a boy where the right nostril was occluded, without a depression in the septum, upon the left side. Dr. Agnew believed the disease to be a new growth from the cartilage, but declined to operate. The growth has since diminished slightly under the use of iodide of potassium. The case might be explained by assuming a separation of the lamina, as suggested by the chairman.

Dr. Henry H. Smith said that in one or two cases of injuries of the nose he had seen a separation of the lamina of the cartilaginous septum; also in cases of abscess between these two layers. In both conditions the nose had afterwards regained its proper shape.

Dr. Risley had noticed, in a case of lateral deviation with ulceration, a perforation of the septum.

Dr. O. H. Allis said that he had never seen a case where the septum held its way directly through the middle of the nasal passages. He believed that a physiological reason existed why one chamber should be used in breathing ordinarily, while the other was comparatively secluded and protected. He had noticed that in smelling, when a good impression upon the olfactory nerve was desired, the head is generally inclined to one side and a strong inspiration taken. In this way the air is forced into the upper portion of that side of the nose that is ordinarily less accessible and is therefore more sensitive.

A POINT IN THE DIAGNOSIS OF FRACTURE AND DISLOCATION—SURGICAL APPLIANCES EXHIBITED.

Dr. John H. Packard said that in cases of fracture occurring near a large joint it is sometimes very difficult to tell whether there is dislocation attending it or not. He therefore desired to call the attention of the Society to a procedure that he had found useful. In cases of fracture without dislocation, he had found that by grasping the limb firmly it could passively be made to pass successively through the normal range of movements proper to the joint. Should fracture coexist with dislocation, the range of motion would be decidedly restricted and the limb would be suddenly checked in a state of partial flexion or extension. He had also noticed that in dislocations some of the movements of the joint can be voluntarily made without pain, while in fracture, particularly of the shoulder- or hip-joint, motion in any direction causes pain. He also asked permission to exhibit a portable gallows for swinging a fractured leg, which could be readily removed to different parts of the room. To this he had also fastened a rope with a handle, by which a patient could lift himself in bed. He also exhibited the fracture-bed used in transporting a lady to the sea-shore.*

RECTAL ALIMENTATION BY BLOOD.

Dr. M. O'Hara inquired whether any of the members had had any experience in the use of defibrinated bullock's blood as a nutrient enema. In a case of chronic syphilitic contraction of the œsophagus, under his care for a number of months, finding that she did not have enough nourishment with milk, broths, etc., he decided upon using the blood as mentioned, and had observed great benefit from it. He had also given in it fluid extract of rennet with three or four drops of hydrochloric acid. The patient had now been on the use of the blood enemata about six weeks, given every three or four hours, four ounces at a time. Defecation occurred only once or twice in a fortnight, as there seemed to be very little waste material. The patient had very much improved.

A CASE ILLUSTRATING THE BENEFIT OF LOCAL TREATMENT IN THE NON-TUBERCULAR FORM OF PULMONARY CONSUMPTION.

Dr. Frank Woodbury presented a patient for examination by the members of this Society, after reading a brief history of the case.

Henry C., 33 years of age, born in Germany; single; occupation, that of cornet-player; admitted into the German Hospital of this city May 6, 1879. Father still living, 73 years of age; was "never sick in his life." Mother died of pulmonary disease, attended with cough, spitting of blood, and emaciation. Lost one brother, at 5 years of age, from unknown cause; has two other brothers and a sister living, and in good health.

His present sickness began shortly before admission to the hospital, last spring. He had always been healthy, but caught a severe cold and cough in February, from which he believed that he had perfectly recovered, when, about the 1st of May, he experienced severe pains in the right shoulder, which he thought were rheumatic. In the course of a few days he noticed that he was feverish and losing his strength, and at this time he came into the hospital. One week after admission he had a small hemorrhage from the lungs; he stated that he had never had one before.

When the wards came under my care, July 1, 1879, C. was expectorating freely, and had been subject to repeated hemorrhages since admission. He was almost continually confined to his bed, for any unusual exertion or exposure brought on a hemorrhage. He had night-sweats, was prostrated, and had lost nearly twenty-five pounds' weight in three months.

The physical signs obtained by auscultation and percussion were those of consolidation of the upper half of the right lung, with bronchial breathing and blowing expiration of relatively high pitch under the middle of the clavicle. Mucous râles, large and medium size, were also heard in this situation. There was exaggerated breathing at the left apex, with a few signs of chronic bronchitis.

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* See last volume, page 628.

About the middle of July he was so evidently sinking from the repeated hemorrhages and constant cough that had resisted previous treatment that it was necessary to make a radical change. Believing that the left lung was sufficiently sound to carry on respiration, it was decided to strap the right chest by adhesive plaster, so as to keep the ribs on the affected side at rest, and the straps were applied, on July 15, as in the treatment of fracture of the ribs. Being renewed from time to time, these straps were kept on for four weeks, when they were considered to be no longer necessary. To reduce the congestion of the lung and prevent hemorrhages, he was at the same time directed to apply an ice-bag enveloped in flannel to the upper part of the right side of the thorax. He kept this on for half an hour, at first, every afternoon, but gradually increased it to two hours at a time, with the most marked effect. He has had but one slight hemorrhage since using the ice in a period of two months. During this time he has gained the surprising amount of twenty-four pounds in weight, notwithstanding the facts that he has an open issue in his right arm, which has discharged a couple of drachms of pus daily for the last two months, and, secondly, that he had one hemorrhage a month ago, which, although small in amount, required the stoppage of his medicines and interfered with the course of his treatment. His improvement was so marked that he was directed to weigh himself on Wednesday of each week. It is to be noted, however, that the improvement is even greater than the figures show, since the first weighing was made after this treatment had continued for two weeks and his improvement had excited remark. He weighed, July 31, 122½ pounds.

On August	6	he had	gained	2	pounds.
"	13	"	"	5	"
"	27	"	lost	½	pound.
On Sept.	3	"	gained	1½	pounds.
"	10	"	"	4½	"
"	17	"	"	6½	"
"	24	"	"	3	"

Total gain, 21½ pounds.

He weighs at present 144 pounds.

His internal treatment has been very much the same as before the local treatment was adopted. Cod-liver oil and malt-extract, four ounces of whisky in milk-punch, small doses of arsenious acid and iron, added to the well-known pill of Niemeyer (containing quinine, digitalis, and opium), and fluid extract of ergot to reduce the copious expectoration, have been the magistral remedies used,—not forgetting, however, the use of atropia (gr. $\frac{1}{60}$) at bed-time, which effectually controlled the night-sweats, and inhalations of lime-water, and, at one time when the breath was offensive, of salicylate of soda in the steam atomizer, which were useful adjuvants. He has also been repeatedly blistered under the right clavicle.

In conclusion, I would take occasion to insist upon the value of a well-ventilated sleeping-apartment in the treatment of these cases,* and, secondly, upon a liberal supply of nitrogenous food to supply the daily waste caused by the free albuminous expectoration. In all such cases, with the view of supplying this loss, I have fallen into the habit of directing the use of from two to four raw eggs daily, in the food, or with brandy-punch. While the albumen is nutritious and easy of assimilation, the oil contained in the yelk may supply the place of cod-liver oil where the latter cannot be used. It may be mere theory, but I have fancied that the lecithine or phosphorized fat contained in the yelk may be a valuable agent in improving nutrition, especially of the nervous system, as lecithine is a well-known constituent of neurine, and is found in all the nerve-centres.

As regards the diagnosis of this case, it is evident that it belongs to the inflammatory and not to the tubercular form of phthisis. At the same time, it does not come exactly under either of the headings proposed by Ruehle in his monograph, in Ziemssen's Cyclopædia, of uncomplicated inflammatory diseases of the lungs. In its pathology, to my mind, it is neither simple chronic apicial pneumonia, broncho-pneumonia, nor apicial catarrh. Grouping, as is generally done, the last two classes together as chronic catarrhal pneumonia, and contrasting them with the first, which may be considered as synonymous with interstitial or fibroid phthisis, it appears that symptoms are present that would warrant placing the case under either head, but, from the amount of consolidation and the evidence of some coexisting bronchiectasis, I would consider this case as an instance of chronic apicial pneumonia (or fibroid phthisis) complicated with considerable bronchial catarrh or bronchorrhœa. The pleuritic stitches (pseudo-rheumatism) early in the history of the case would also favor this view. The temperature record has been kept continuously, and is submitted herewith for examination:

The temperature at first was irregular, advancing to 103° and 103½°, as in ordinary cases of pneumonic phthisis; for more than a month now it has ranged between 98° and 99°.

The fact of there being apparently a family history of lung-disease renders the case doubly interesting as suggesting a tubercular tendency in the patient, but which may have been kept in check by the constant playing on a wind-instrument, which has favored the development of his chest. It is possible that a deposit of tubercle may yet take place in our patient, if it has not already occurred; and, according to Niemeyer, this is now his greatest danger.

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* The hemorrhage that occurred about August 12 was thought to have been caused by overcrowding of the wards: at that time he was removed to a separate room, and has been doing uninterruptedly well ever since.

[A recess of ten minutes was taken by the Society for the purpose of examining the patient.]

DIAGNOSIS BETWEEN LUXATIONS AND FRACTURES NEAR THE JOINTS.

Dr. Packard called the attention of the Society to a diagnostic mark between luxations and fractures. He had noticed it especially in the neighborhood of the hip-joint. It was that in the former class of cases a certain limited amount of voluntary motion was possible, the head of the bone simply taking a new *point d'appui* in its false position. This was not, as a general rule, the case in fractures, either for want of sufficient purchase or because of the pain caused by any such attempt. Although, indeed, patients with fracture of the cervix femoris could sometimes walk, this was always by means of the strong ligamentous attachments and the impaction of the fragments. Walking under such circumstances was very difficult and attended with a certain amount of pain. Dr. Packard believed it would be found, even in these cases, that the effort to raise the knee in bed would be almost, if not quite, impossible, while in luxation — at least when the head of the bone was either on the dorsum, in the sciatic notch, or in the thyroid foramen—this motion could be accomplished without serious difficulty. He did not know how far the statement was applicable to the diagnosis of injuries about other joints, but within two weeks he had met with two illustrative cases in luxations of the hip.

TWO CASES PRESENTING SYMPTOMS OF ACUTE OBSTRUCTION OF THE BOWELS.

Dr. Charles B. Nancrede reported a case illustrating the difficulty of recognizing conditions of the intestines that are commonly supposed to be easily detected.

A young German, about 25 years of age, who had never suffered from any hernial trouble previously, was kicked in the lower part of the hypogastric region by a horse, one calk striking over the left inguinal canal, and the other tearing through the abdominal muscles about an inch above the right inguinal canal, as the post-mortem proved.

He was brought into the Episcopal Hospital, where he soon developed symptoms of peritonitis, which was not apparently severe, as only eight grains of opium were required during the twenty-four hours to render him comfortable. There was occasional vomiting when the stomach was overloaded. He apparently improved, the temperature and pulse both fell, and Dr. Nancrede felt reasonably confident of his eventual recovery. On the third day, however, he commenced to vomit matter which had a distinctly fæcal odor. The next day he was collapsed, and at intervals vomiting stercoraceous matter.

A careful examination for a strangulated hernia was made, without success. The scrotum was still swollen, a reducible swelling existing on the left side, the finger readily entering the inguinal canal, the tumor retreating with a crackling feel, like emphysema, different from the characteristic gurgle of reduced gut. On the right side a similar swelling was found in the line of but above the inguinal canal. This did not entirely yield under taxis, leaving what felt like an empty hernial sac.

The right tumor was carefully cut down upon, but when the peritoneum was opened no strangulated gut was found, but everything was so bound down as to preclude any idea of search for an intra-abdominal obstruction.

At the post-mortem the muscles at the seat of injury were lacerated, the perineum was highly inflamed, and a fluid having a fæcal odor was encountered in its cavity. On drawing the intestines out, they were found matted together with lymph, but there was no strangulation, the intestinal tube allowing water to pass freely through it. At several points all the coats of the bowel were inflamed.

He reported this case to recall to the attention of the members that enteritis may cause all the symptoms of obstruction through intestinal paralysis. This fact should be borne in mind, as we might otherwise be inclined to subject the patient to the risks of a very serious operation.

As a companion case to the above, he mentioned one that occurred this summer in the practice of another gentleman, and which he had had the opportunity of observing. A little boy 7 years old presented the symptoms of acute intestinal obstruction. As his brother had died of intussusception of the bowels a year previously, the parents were perfectly willing to have abdominal section performed, if necessary. The introduction of O'Byrne's tube into the rectum and several large enemata brought away a mass consisting principally of tomato-skins, which had become impacted in the bowel at a point which was probably paralyzed by enteritis. The patient recovered.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, SEPTEMBER 11, 1879.

THE VICE-PRESIDENT, DR. JAMES TYSON, in the chair.

Hepatic abscesses from a case in which there were cystic ovarian tumors containing inspissated pus. Presented by DR. LOUIS STARR.

I AM indebted to Dr. Sinkler for the opportunity of presenting these specimens. The clinical notes were taken by Dr. H. D.

Harvey, resident physician at the Episcopal Hospital.

Kate ——, æt. 35, was admitted to the medical ward of the Episcopal Hospital on August 16, 1879. Her family history was good, all her immediate relations being alive and well except her father, who had died of dysentery. She had always resided in Philadelphia, had been temperate in her habits, and had never had syphilis. Exclusive of the diseases incident to childhood, she had enjoyed good health until the commencement of her last illness, in June, 1878.

At that time she noticed a small, painless tumor in the left iliac region, her appetite failed, she had considerable flatulent distention after eating, and her bowels became constipated. The tumor slowly increased in size. In May, 1879, the catamenia, which had previously been regular, stopped, and she began to have tensive pain in the tumor varying considerably in intensity, to lose flesh and strength, and to suffer from neuralgia of the left sciatic nerve occasionally severe enough to prevent her walking.

Early in August she noticed a dull pain in the right infra-mammary region, and on each of the two days preceding her entrance to the hospital she had several copious evacuations from the bowels. Nevertheless, she continued to perform her household duties up to the day of admission.

When admitted, she was very weak, her face was anxious, the conjunctivæ were slightly yellow, and the skin somewhat sallow. Her tongue was covered with a thick, brownish coating, which was dry and cracked; she had little desire for food, and there was moderate diarrhœa, the evacuations being liquid, but containing neither mucus nor blood. The abdomen was distended; the left iliac, the hypogastric, and the umbilical regions were occupied by a tumor, which was dull on percussion, tender to the touch, and gave to the finger a sense of firmness, with indistinct fluctuation; the remaining regions were tympanitic. Her breathing was hurried, and there was dull pain in the right infra-mammary region, uninfluenced by the respiratory movements. The pulse was frequent and feeble.

On August 17 and 18, the pain in the tumor became greater and the abdominal tenderness more extended.

On August 19, the pulse was 120 and very weak; there was flushing of the face and considerable elevation of the surface temperature, followed in the afternoon and evening by profuse sweating. During the night there were two large evacuations from the bowels, consisting of little else than dark-colored, clotted blood.

On the morning of the 20th the patient complained of great pain in the lower portion of the abdomen, her skin was cold and clammy, and her pulse thready. In the afternoon there were two more hemorrhages from the bowels, and death occurred early in the evening.

An *autopsy* was made fifteen hours after death. The body was much emaciated. On opening the abdomen, a large mass was observed filling up the lower portion of its cavity and displacing the intestines upward and to the right. This mass in reality consisted of two tumors bound together by narrow bands of fibrous tissue. Both tumors were lobulated and fluctuated indistinctly under the finger. The smaller of the two occupied the left iliac fossa and the left iliac region, was about four inches in diameter, and was loosely connected with the left side of the body of the uterus; the larger occupied the hypogastric and umbilical regions, was about five inches in diameter, and was more intimately joined with the fundus and the right side of the uterus. The dilated right Fallopian tube could be traced along the under surface of the larger tumor, and the left Fallopian tube could be traced for a short distance into the smaller tumor. Upon section, the tumors were found to be cystic in structure; their walls were about one-eighth of an inch in thickness, and they contained a soft, putty-like substance resembling inspissated pus, the material filling the larger sac being white and firm, while that in the smaller was more liquid and yellowish in color. The uterus appeared to be normal. The tumors, together with the uterus, weighed a little more than seven pounds.

The *liver* was somewhat enlarged, the right lobe extending from the costal border upward as high as the fourth rib, and the margin of the left lobe being too far to the left. The upper right postero-lateral surface of the right lobe was adherent to the diaphragm and abdominal wall, and considerable force was required in removing the viscus. In doing this the hepatic tissue was torn, opening a large abscess situated superficially in the upper posterior part of the right lobe, and giving vent to a quantity (estimated at one pint) of inodorous, thick pus, containing numerous shreds of partially-broken-down glandular tissue. The abscess measured six inches in transverse and five inches in antero-posterior diameter; its superior wall was scarcely one-fourth of an inch in thickness, and its internal surface was ragged, being formed of softening tissue. A short distance behind and below this abscess was a second abscess, entirely isolated, irregular in shape, and about as large as a walnut. The substance of the liver in the neighborhood of the abscesses was very much softened and engorged with blood. The gall-bladder held a small quantity of viscid, bile-stained mucus; its walls were thickened in an appreciable degree, and the reticulation of the mucous membrane was unusually well marked. The bile-ducts were patulous. The liver weighed five and a quarter pounds.

The stomach and intestines were not examined.

The kidneys and the thoracic viscera were healthy.

A microscopic examination made by Dr. Simes showed that the material contained in the ovarian cysts was composed of pus corpuscles, granular débris, and compound granular corpuscles.

Remarks.—There can be no doubt that the abscesses in this case were pyæmic in nature, although the anatomical characteristics of pyæmic abscesses of the liver, viz., multiplicity and smallness in size, were absent. The absence of these characters is, I think, not unusual; for example, in three other cases* which have come directly under my observation there was in one a single large abscess in the right lobe, in another a large abscess in the right lobe and a small forming abscess the size of a filbert in the left lobe, and in the third there were two abscesses in the right and one in the left lobe, the largest being five inches in transverse and six inches in antero-posterior diameter, and the smallest about an inch in diameter.

In this patient, in addition to the suppuration in the cystic tumors,—a very evident source of purulent infection,—there was probably some lesion, perhaps ulceration, of the intestinal tract, though unfortunately this was not investigated at the post-mortem examination. That a lesion did exist I infer from the diarrhœa and intestinal hemorrhage which occurred a short time before death, the color of the blood showing that it came from a point rather high up in the canal, and also from the fact that there was no evidence of portal obstruction or of pulmonary or cardiac disease to cause extreme congestion of the intestinal mucous membrane and consequent hemorrhage.

From a clinical stand-point the case must be placed in the large group of *latent* hepatic abscesses, there being no symptoms indicative of disease of the liver except the slight yellowness of the conjunctivæ and the dull pain in the right infra-mammary region, neither of which is at all characteristic. On the contrary, the symptoms, and especially the physical signs, were such as to fix the attention upon the abdominal tumor.

Case of obstruction of the bowels where laparotomy was performed. Presented by Dr. Nancrede.

George Ott, male, æt. 29 years, by occupation a brickmaker, was admitted to the male surgical ward of the Protestant Episcopal Hospital on the afternoon of August 19, 1879, suffering from a horse-kick in the lower part of the hypogastric region.

The pubic region was much ecchymosed, one calk of the shoe having struck in the left inguinal canal, and the other about one inch above this spot on the right side. He had never suffered from any hernial trouble. Symptoms of mild peritonitis supervened, which were controlled by the administration of eight grains of opium per diem, with the exception of occasional vomiting when the stomach was overloaded. On the afternoon of the third day, however, the ejecta smelt stercoraceous, and by the following morning he was collapsed with undoubted stercoraceous vomiting. He now presented a swelling in each inguinal region. That on the left side receded completely when taxis was used, but with an emphysematous crackle unlike the characteristic "gurgle" of reduced gut. That on the right side could not be entirely removed by taxis, leaving a small mass which felt like a hernial sac.

After consultation, it was determined to cut down upon the right inguinal canal, and endeavor to discover the nature of the irreducible part. When the peritoneum was reached, it was black and sphacelated in parts, so that during some of the manipulations it gave way, giving vent to several ounces of stercoraceous-smelling matter. No further search for the obstructed portion of the gut was undertaken, owing to the matting together of the bowels by adhesions and the apparent demonstration of the rupture of the bowel.

Death took place seventeen hours later, and on post-mortem examination no obstructed portion of bowel was found, water passed freely through the gut, and no ante mortem rupture could be discovered. At several points the whole circumference of the gut was inflamed throughout all its coats, thus giving an illustration of what is more common than is usually suspected, viz., an obstruction of the bowels from inflammation of all its coats, thus producing paralysis at that point. The fæcal odor was probably due to the osmosis of the intestinal gases into the purulent and peritoneal fluids.

REVIEWS AND BOOK NOTICES.

Eyesight, and How to Care for It. By George C. Harlan, M.D., Surgeon to the Wills Eye Hospital, etc.

This, the fourth in Messrs. Lindsay & Blakiston's now well-known series of "American Health Primers," will certainly add to the reputation of the series. Dr. Harlan's well-deserved standing as an ophthalmologist would of course lead us to expect the adequate and correct treatment of the subject, and an examination of the primer shows that the facts have been presented in a clear, concise, and intelligible manner, without undue verbiage or excessive condensation: in fact, the literary style is excellent. We must take exception, however, to the statement that the attempt to crowd his subject into so small a space was made by the author with a sense of the "absurdity" of the undertaking. If a book appears absurd to its author, how is it likely to strike the reader? Fortunately, Dr. Harlan's confession is to be taken in a Pickwickian sense, and we can safely recommend his little work alike to the practitioner and to the cultivated layman, with the assurance that they will find it both pleasant and profitable reading.

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* Trans. of College of Physicians of Philadelphia. Third series, vol. iv.

ANALYSIS OF THE URINE, WITH SPECIAL REFERENCE TO THE DISEASES OF THE GENITO-URINARY APPARATUS. By K. B. HOFFMANN, Professor in the University of Grāz, and R. ULTZMANN, Docent in the University of Vienna. Translated by T. BARTON BRUNE, A.M., M.D., Resident Physician Maryland University Hospital, and H. HOLBROOK CURTIS, Ph.B. 8vo, pp. 269. New York, Appleton & Co., 1879.

THE SAME TREATISE, translated by F. FORCHEIMER, M.D., Professor of Medical Chemistry at the Medical College of Ohio. 12mo, pp. 195. Cincinnati, Peter G. Thomson, 1879.

Few works will better bear two translations, simultaneously published, than this admirable one of Hoffmann and Ultzmann. But, as there is never a necessity for such double issue, we regret its occurrence, for the sake both of translators and publishers, and whether it be the result of accident or of design.

Prefacing an interesting historical sketch of the development of urinology, the authors introduce chapters on the histology of the urinary organs; the physiology of the excretion of urine; its physical and chemical characters, chemical constituents, normal and abnormal, and the sediment; concretions, with their analyses; reagents and apparatus for the approximate determination of the urine constituents; quantitative determination of a few of the constituents of the urine; key to the approximate analysis of the urine; general diagnosis; and diagnosis of the diseases of the urinary apparatus. Singularly, the chapter on reagents and apparatus is placed in the heart of the volume, instead of at the commencement, where we would naturally expect it.

We have not space for further analysis of the work, but would simply state that it well deserves the reputation it has already obtained abroad. It is eminently practical, and adapted, as the authors claim, to the wants of the physician and student rather than of the medical chemist, although the latter can ill afford to dispense with it.

Of the two editions the New York book is the finer in execution, being handsomely got up in large type on good paper, and has appended eight well-executed plates, each containing two figures of urinary sediment. These are from the Atlas of Hoffmann and Ultzmann, and make the volume very complete. But the Cincinnati edition is, in our opinion, more convenient, in that it is smaller and more easily handled. It has interpolated in the text, as wood-cuts, the same figures which appear in the plates appended to the New York edition, but they are coarse and inferior. Being less costly in its execution, we presume its price is less than that of its New York rival. J. T.

HYGIENE OF THE VOICE: ITS PHYSIOLOGY AND ANATOMY. By GHISLANI DURANT, M.D., Ph.D. New and revised edition. New York, Cassell, Petter, Galpin & Co., 1879. 188 pages, with 7 wood-cuts.

In the preface the author states that the book is not intended as a manual for singing, but as a guide to the singer, so that he may know what he is making use of, and will only ask of each part that which it can perform, and not task it beyond its power. In reading the book, however, we find that the descriptions of the anatomy of the larynx and the physiology of the voice are too vague to be understood by the layman, and contain too many of the errors of the older writers on laryngology to be of much service to the singer. So, for instance, do we miss a description of the peculiar motion of the arytenoid cartilages, which is so important in vocalization, and find that the definition of the difference between noise and music is absolutely wrong.

The explanation of the production of the registers of the voice is by no means satisfactory; and we cannot agree with the author when he says that the soft palate and the uvula are in contact with the back of the tongue in the head-register, so that the sound is emitted through the nostrils.

In the chapter on diseases of the voice, the author makes the sweeping assertion that amputation of the uvula and excision of the tonsils are operations which should never be performed in any case, simply because they are often performed when not necessary.

In the appendix a description is given of three methods of gargling, and in one of them the remarkable statement occurs that "swallowing is unavoidable, and is caused by the opening of the GLOTTIS to give passage to the air breathed through the nose."

We also think it bad taste, to say the least, for a medical practitioner to add a list of prescriptions to a book intended for the general public, and in this case dangerous, inasmuch as many of the formulæ contain opium in considerable quantities.

There are, however, many good points in the volume which singers and public speakers would do well to bear in mind, and the chapters on respiration, alimentation, sleep, and preservation of the voice are full of sound advice to both singing teachers and pupils.

The illustrations are mostly diagrammatical in character, and are well executed, especially Fig. 5, which gives a very clear idea of the action of the crico-thyroid muscle and the rocking motion of the thyroid cartilage upon the cricoid cartilage.

The whole book presents a very neat appearance, and does great credit to its publishers. C. S.

Observations on Contraction of the Fingers (Dupuytren's Contraction) and its Successful Treatment by Subcutaneous Divisions of the Palmar Fascia, and Immediate Extension. Also on the Obliteration of Depressed Cicatrices after Glandular Abscesses, or Exfoliation of Bone, by a Subcutaneous Operation. By William Adams, F.R.C.S., Surgeon to the Great Northern Hospital, etc., etc. With four plates and numerous engravings. Small 8vo, pp. 80. London, J. & A. Churchill, 1879.

Most of our readers will probably recognize in "Dupuytren's contraction" an old enemy who has more than once foiled them. In this excellent and most practical monograph, Mr. Adams shows from anatomical and clinical facts that the trouble does not lie in the flexor tendons, which indeed cannot be involved. It is due to abnormal thickening of the palmar fascia and its digital prolongations, this thickening being the result probably of a gouty tendency.

After detailing the various operative procedures, by open wounds and by subcutaneous section, suggested by different surgeons, the author describes the plan which he has found successful, viz., multiple subcutaneous sections with a very small, pointed, straight-edged knife, followed by immediate extension maintained by padded metal splints.

The other essay, on the Obliteration of Depressed Cicatrices, is briefer, but equally practical.

We consider this little volume, which is handsomely printed and admirably illustrated, an extremely valuable contribution to the literature of surgery. It is well worth careful study. P.

GLEANINGS FROM EXCHANGES.

Fissures of the Anus.—Dr. John C. Peters (*Physician and Pharmacist*, 1879, No. 6) says, "If the fissure is of recent origin it may often be cured without operation, especially if it be situated towards the perineum; but when ulcers have formed, an operation by incision down to their base and deeper is required. Sometimes there is an inflamed filament of a nerve in the ulcer, which may be destroyed by acid nitrate of mercury, or by the knife cutting down through it and the fibres of the muscles which lie immediately beneath it. The small polypoid growths, if present, must always be snipped off, or the fissure will not heal. If the base of the ulcer be old, gray, and hard, the sphincter will be found hypertrophic and spasmodically contracted, feeling like a strong india-rubber band, with its upper edge sharply and hardly defined; then it must be divided down and through the muscular fibres so as utterly and entirely to prevent all action of the muscle for a greater or less length of time, unless suppositories of the bichloride or ammoniate of mercury, with belladonna or conium, or cannabis indica, can be made to cure it. Phillips says '*belladonna* has a remarkable influence over ulceration-processes of various kinds.' The extract, locally applied, will heal irritable ulcers of the rectum and fissures of the anus, or, if it fail to accomplish this, will greatly mitigate the pain and trouble. In fissure, the purpose may be accomplished in an easy and very satisfactory manner by passing a small belladonna suppository up the rectum night and morning. For the removal of the ulcer, the tincture should also be administered internally. Belladonna is also an excellent agent for the mitigation and complete removal of the acute burning pain which so frequently follows defecation when there is ulceration. It prevents the recurrence of the distressing spasm of the sphincter. If it fails alone to heal the fissure or cure the ulcer, the extract may be combined in equal proportions with mercurial ointment. The latter alone does not exert the same salutary effects, nor is relief obtained so readily as when combined with belladonna. The same holds true even when chronic ulcerations of the rectum arise from secondary syphilis.

"*Tannin* was used by Van Holsbek in solution with sixteen parts of glycerin, introduced into the rectum by tents, night and morning. Suppositories of cacao-butter or stearin containing two or three grains of tannin are still more effectual. *Borax* was used successfully by Brinton, forty grains in four ounces of water with ℥j of glycerin, as small injections into the bowels, in a case which had baffled all attempts at alleviation for years. *Bismuth* was employed by Trousseau, with three parts of glycerin, as an application to fissures of the anus. Rectal suppositories of bismuth with cacao-butter or stearin are still more useful. It is sedative, astringent, and alterative. The carbonate is more soothing than the sub-nitrate. *Bromide of potash* is recommended by Ringer in five parts of glycerin, in fissures of the rectum, painful growths, and hemorrhoids. *Krameria, or rhatany*, is credited with numerous cures, both in adults and children, reported by Trousseau, Bretonneau, and others. They used large injections with ʒj to ʒiss of rhatany, night and morning; then at night only, and finally, as the cure progressed, every few days. They also advised an ointment of one or two parts to five of lead. Rosse used a solution of one to sixteen as an injection. Its astringency depends upon tannin. Simple suppositories of two to five grains of the extract with stearin or cacao-butter is the simplest and best way of using it. *Sulphate of copper*, two grains in solution, is also recommended. The first applications are painful. *Sulphur*, five to ten grains, with ℨj of confection of senna, is recommended by Ringer, not only to maintain the fæces in a soft and yielding state, but to exert a beneficial and specific action on the rectum. If this hold true, suppositories of sulphur with stearin should be still more useful. *Nitric acid*, dilute, internally and locally applied, is credited with many cures. *Iodoform* rectal suppositories are most useful applications; they will so blunt the sensibility of the rectum that passages may take place without the knowledge of the patient. But its odor is very diffusive and disagreeable."

PRECOCIOUS SYPHILITIC DISEASE OF THE NERVE-CENTRES. — Dr. Charles Mauriac (*Medical Press and Circular*, August 20, 1879) formulates the result of his experience as follows:

1. Syphilis may attack the nerve-centres at an epoch very near that of the primary accident.

2. Cerebro-spinal syphilitic affections are *precocious* when developed in the virulent period of the disease,—that is, during the two or three first years.

3. There are degrees in the precocity of such cerebro-spinal syphilitic affections: the first comprehends those arising in the first twelve months; the second those which are developed in the second or third year of the constitutional disease. Statistics would seem to prove that those of the first degree are commoner than those of the second; but these results are of but little importance.

4. Among the visceral precocious lesions of syphilis, the cerebro-spinal affections are incomparably the most frequent.

5. They are also the most dangerous. Their gravity is not in proportion directly with the age of the diathesis: those which supervene in the first months of the disease are as formidable as those which belong to the most tardy phases of it.

6. All the forms and degrees and phenomenal combination which make up the symptomatology and process of the effects of syphilis on the neuro-axis are observed as well in precocious cerebro-spinal affections as in the later ones.

7. There are, however, certain symptomatic formulæ which seem predominant. The most frequent are those which consist in an attack of hemiplegia affecting the whole of one side.

8. Among the attacks of hemiplegia, that which is constituted by the combination of aphasia with right hemiplegia is more prevalent than the rest.

9. The paralytic forms are much more numerous than the convulsive or epileptic in precocious cerebral affections.

10. In these syphilitic cerebro-spinal affections, mental lesions and incoördination of movements are never systematic, as in insanity, general paralysis, or locomotor ataxia.

11. The absence of this systematic order in cerebro-spinal syphilitic affections ought to be regarded as one of their principal characters. Only *one* restriction is to be made in favor of the coexistence of aphasia with right hemiplegia.

12. The precocious determinations of syphilis on the spinal cord are much less frequent than those on the brain.

13. The circumscribed or diffuse suffusions of hyperplasia of the cortical layer of the brain and pia mater, the syphilitic alteration of the Sylvian arteries and consecutive softenings,—such are the lesions which appear to belong to precocious syphilitic cerebro-spinal affections.

14. In certain cases of precocious cerebro-spinal affections followed by death, no lesion was found; but at that time syphilis of the arteries was unknown. It is to be supposed that death was caused by a sudden anæmia, which extinguished at once the foci of innervation indispensable to life.

15. We can only make very vague conjectures as to the causation of precocious cerebro-spinal syphilitic affections. In the majority of cases the primary accident has been very benignant, as well as the consecutive cutaneous and mucous manifestations.

16. The general progress of the constitutional disease is not modified by the appearance of precocious syphilitic accidents of the nervous centres. The other manifestations are produced before, during, or after the determination on the neuro-axis, without undergoing from this influence any change in their form or degree, progress or topography.

17. The precocity of the cerebro-spinal syphilitic affections furnishes no peculiar indication as to the question of treatment. Whatever be the age of the constitutional disease, the manifestations on the nerve-centres require the same specific modification. The circumstances proper to the affection itself furnish the indications of secondary importance, relative to the choice, doses, and combinations of the two specific agents.

ACUTE POISONING BY PHOSPHORUS.—Dr. Sidney Coupland reports (*Lancet*, vol. ii., 1879, p. 309) the case of a child who had sucked the heads of some phosphorus matches and was attacked a few hours later with vomiting and purging. The next day the child seemed nearly well, enjoyed her supper, and went to bed. During the night, however, she was seized with a fit, and died forty-eight hours after taking the poison. The autopsy showed no jaundice nor cutaneous petechiæ. Brain and membranes very vascular, but no other gross change. No sub-serous ecchymoses in thorax. Lungs engorged with blood. Right side of heart distended with soft, black clot and fluid blood. Walls of ventricles, especially left, presented on section a yellowish granular appearance, and were extremely soft and friable. The microscope showed an extraordinary degree of fatty degeneration. Mucous membrane of pharynx, œsophagus, and stomach normal. A few small ecchymoses in intestine. Liver-tissue not soft or friable, but showing marked fatty degeneration under microscope. Portions of tissue treated with a mineral acid in a dark room failed to give phosphorescence.

MALFORMATIONS OF THE SKELETON AND THEIR TREATMENT WITH REGARD TO THE PHYSIOLOGICAL DEVELOPMENT OF THE SKELETON.—Prof. Hueter, of Greifswald (*B. Med. Jour.*, vol. ii., 1879, p. 460), read a paper on this subject before the recent International Congress of Medical Science in Amsterdam, arriving at conclusions substantially as follows. Acquired pes valgus and genu valgum, when not caused by inflammation or traumatic lesions, are due to diseases peculiar to the development of the skeleton, and connected with abnormal activity of normal physiological changes. The deformity is caused either by normal pressure on abnormally soft parts of the skeleton (rachitic form) or by abnormally great pressure on normal parts of the skeleton (static form). Congenital pes varus is a disease peculiar to the growth of the skeleton. In the majority of cases the onset is not marked by peculiar muscular troubles, the conformation of the bones of the tarsus presenting an abnormal development of the normal fœtal conformation. Scoliosis, when not due to the shortening of an extremity, or to a process of cicatrization (chronic empyema), is an affection of the bones of the trunk, caused by asymmetric development of both halves of the pectoral vertebræ, and by asymmetric growth of the ribs, both to the right and left, and the diameter of the thorax. It is a disease of growth analogous to the asymmetric development of the pelvis and skull. Treatment consists in checking by a well-regulated pressure the tendency of those portions of the bones which grow exuberantly, and in stimulating, by removing all pressure, the growth of those portions of the skeleton which are backward in their growth. By applying this method to the treatment of cases of incipient scoliosis, we may be sure of success.

TREATMENT OF PROLAPSUS ANI.—Dr. Vidal recommends injection of a solution of ergotin for this purpose. The *Paris Médical* mentions three cases in which this method was employed. In one of these the prolapse, which had existed for eight years, yielded to the treatment in three months. In two other instances the cure was much more rapid. At the present time there is a woman under observation at St.-Louis, who has been almost entirely cured by three injections. The contractions produced by the introduction of ergotin extend, as a rule, to the bladder, and give rise to spasm and dysuria.—*Lancet.*

URETHRAL DILATATION.—Dr. Southworth (*New York Med. Record*, 1879, p. 386), recognizing the impropriety of enlarging the meatus when it is within eight millimetres of the calibre of the spongy portion of the canal, and hence the impossibility of sufficiently dilating strictures situated within the first inch of the urethra with any of the dilating instruments now in use, has resorted to the expedient of introducing ovoidal wedges of different sizes. These are made of lead, flattened and grooved on one side, and are put in position previous to the insertion of the conical steel sound, which latter is made to glide along the grooved surface of the wedge, thus stretching to any desired extent the ruptured or incised tissues. A small wire should be attached to these wedges for convenience of introduction and removal.

GINGIVITIS OF PUERPERAL WOMEN usually appears after the fourth month of pregnancy, and tends to disappear naturally a month or two after parturition. The local treatment suggested by Pinard is touching the diseased parts with tincture of iodine, glycerolate of tannin, chlorate of potash, chromic acid, etc. The most efficacious local treatment, however, which always succeeds, is equal parts of tincture of cochlearia and solution of chlorate applied daily with lint.—G. R. C., in *New York Medical Journal*, 1879, p. 429.

TOXIC SYMPTOMS FROM THE USE OF DUBOISIN DROPS.—Mr. Nettleship reports (*Lancet*, vol. ii., 1879, p. 352) several cases in which one to four drops of duboisin solution, applied to the eye as a mydriatic, produced toxic symptoms.

In one case a man began to feel drowsy half an hour after the instillation of the remedy, staggered, and said he felt giddy; he lost power over his limbs, and finally became delirious and violent. The next day he felt better, but weak, and he complained of numbness in the fingers for some weeks. The solution used contained four grains of crystallized sulphate of duboisin to the ounce of water, and was therefore of the strength of $\frac{1}{120}$ gr. to the drop.

TOXIC EFFECTS OF TEA.—A horse belonging to Lord Beresford, in the late campaign against the Zulus, was allowed, through some inadvertence, to eat several pounds of tea at a meal, which produced the most startling results. The animal plunged and kicked, and ran backwards, at intervals galloping madly around, finally falling into a donga, where it lay dashing its head on the rocks, and was dispatched by an assegai thrust through the heart. The post-mortem appearances indicated extreme cerebral congestion. The occurrence as an accident is probably unique. The phenomena exhibited were, however, characteristic of the action of caffeine, namely, cerebral excitement, with partial loss of sensibility, convulsions, and death. The sensory nerves are paralyzed without any corresponding paralysis of the motor nerves, so that the muscular action which proceeds from ideation and volition remains unaffected. The reversal of limb movements, which produce running backwards in quadrupeds, is a common symptom of brain disturbance, frequently witnessed, for example, in the case of puppies with unclosed crania. The case is one of great interest, and may help to throw light on the action of tea, which has not been sufficiently studied, and must be still classed as unexplained.—*Lancet*, vol. ii., 1879, p. 362.

MERCURIAL STOMATITIS FROM THE LOCAL USE OF BLACK WASH.—Dr. George P. Best gives the following case (*Lancet*, vol. ii., 1879, p. 463): A man of 26 came under his care, suffering with five excavated ulcers surrounding more or less the left leg. They were elliptical in shape, of various sizes, the largest having the respective diameters of six and three inches, the smallest an inch and a half and one inch. Their appearance immediately suggested syphilis. The right leg was without spot. He put the patient on ten-grain doses of iodide of potassium, and black wash to be applied to the sores. In three days' time the ulcers showed signs of improvement, but the patient complained of pain at the angles of the lower jaw, difficulty in opening the mouth, and looked somewhat swollen in the face about the region of the submaxillary glands. In order to ascertain if these symptoms were due to the mercurial, the black wash was stopped, and the symptoms disappeared, only to reappear once more when the application was once more employed. This experience seems to point to a possible method of treatment in these cases without the use of internal remedies.

POISONING BY BICHROMATE OF POTASSIUM.—Dr. A. Dunbar Walker (*Lancet*, vol. ii., 1879, p. 464) was called to see a man who had taken by mistake a drachm of the bichromate of potassium dissolved in half a tumbler of water. Five minutes later he had been seized with violent vomiting and purging. When seen by the doctor, two hours afterwards, he was pale and anxious, pulse feeble and irregular, surface of body cold and clammy, cramps in stomach. A little tincture of opium given allayed the pain and quieted the stomach. Hot applications were made to the feet, and after a few hours reaction set in, and he became feverish, with a pulse of 120. Next day he was better, but passed seven evacuations of a pea-green color. In a day or two he was convalescent.

MANAGEMENT OF PATIENTS WITH PROSTATIC ENLARGEMENT.—Dr. Reginald Harrison speaks as follows on this subject (*Lancet*, vol. ii., 1879, p. 463): Patients long before reaching the confines of threescore years and ten, some by anticipation, others by a realization, of the earlier symptoms of prostatic enlargement, not unfrequently ask advice as to how they may keep in abeyance the graver symptoms and complications of this affection. In advising such persons, I have for some years been in the habit of laying stress upon the following points:

1st. To avoid being placed in circumstances where the bladder cannot be emptied at will.

2d. To avoid checking perspiration by exposure to cold, and thus throwing additional work on the kidneys. In climates such as our own, elderly persons should, both in summer and winter, wear flannel next to the skin.

3d. To be sparing of wines or spirits exercising a marked diuretic effect, either by their quantity or their quality. Select those which promote digestion without palpably affecting the urinary organs. A glass of hot gin-and-water, or a potent dose of sweet spirit of nitre, will not do anything to remove the residual urine behind an enlarged prostate.

4th. To be tolerably constant in the quantity of fluids daily consumed. As we grow older our urinary organs become less capable of adapting themselves to extreme variations in excretion. Therefore it is desirable to keep to that average daily consumption of fluids which experience shows to be sufficient and necessary. How often has some festive occasion, where the average quantity of fluid daily consumed has been largely exceeded, led to the over-distention of a bladder long hovering between competency and incompetency! The retention thus occasioned, by suspending the power of the bladder, has often been the first direct step in establishing a permanent, if not a fatal, condition of atony or paralysis of this organ.

5th. It is important that from time to time the reaction of the urine should be noted. When it becomes permanently alkaline in reaction, or is offensive to the smell, both necessity and comfort indicate the regular use of the catheter. If practicable, the patient may be instructed in the use of the instrument.

6th. Some regularity as to the time of performing micturition should be inculcated. We recognize the importance of this in securing a regular and healthy action of the bowels, and though the conditions are not precisely analogous, yet a corresponding advantage will be derived from carrying out the same principle in regard to micturition.

The sum of these instructions is, that inasmuch as we cannot arrest the degenerative changes by which the prostate becomes an obstacle to micturition, it becomes of the first importance that every means should be taken to compensate for this by promoting the muscularity of the bladder and preventing it becoming atrophied or paralyzed either by accident or improper usage.

MISCELLANY.

Sewage.—Dr. W. Allen Sturge, of London, has recently read a paper at the meeting of the Institution of Surveyors, in which he compares the methods of sewerage in France and England, and describes the sewage irrigation near Paris. Of the nine hundred and fourteen acres now fertilized with the sewage of that city, nearly seven hundred are devoted to market-gardening, the produce being readily sold, even at the largest hotel. The amount of land under treatment has increased each year since the beginning of the experiment, twelve years ago, and in spite of complaints of bad odors, there can be no reasonable doubt that Paris will before long follow the example of Berlin, and deal with all the sewage of the city in this manner, the alleged saturation of the soil and injury to health having been shown to be unsupported by facts. As in Berlin, the expense of irrigation is much greater than the returns from it. In Paris the sewage is taken or refused at pleasure by small tenants or land-owners. In Berlin the city has bought the land, and controls the whole matter. It is an interesting fact that the Essex Reclamation Company of London still hope to carry out their project of reclaiming the sands on the north side of the mouth of the Thames, and to dispose of the one hundred and twenty million gallons of sewage daily from that city by irrigation.—*Boston Med. and Surg. Journal.*

Paracentesis Post-Mortem.—A correspondent of the *British Medical Journal* says he was called to see a man in the last stage of dropsy, and advised tapping. The advice was not taken, and the man began to sink. One morning the doctor was knocked up at five o'clock. "We want you to go and tap yon man directly," said a voice under the window. "What, at this hour of the day?" "Yes; he's dead," was the reply. "He's so big"—— The doctor did not tap him.

A most extraordinary tale is in the public press concerning the death of the nephew of Prescott, the historian, which lately took place at Brooklyn. He was subject to a severe neuralgia, supposed to arise from a decayed tooth. This was filled by a dentist in Boston, and soon afterwards the decay in the tooth spread to his jaw and other tissues, and only stopped when, as the papers state, it had "severed the connections between the head and body save the spinal column," at which point the patient succumbed. The dentist was blamed with the death, he having, as it was said, filled the tooth with arsenic to destroy the nerve. This he denied, however; and even if he had not, such ravages from arsenic as those related in this case would be rather fresh news to the profession.—*Louisville Med. News.*

It is announced that Prof. E. S. Gaillard has resigned his chair in the Louisville Medical College.

The Veteran Lecturer of the World.—It is stated that Prof. Chevreul, well known for his researches on fatty acids and fats, has commenced his annual course on organic chemistry, in Paris, although in his ninety-third year.

We have been requested to announce that the National Board of Health request that all sanitarians who are interested in the permanent organization of the Board or in the question of quarantine shall meet them for conference in the city of Nashville, Tennessee, on the 18th to the 23d of November, at which time the Public Health Association will be in session in the city designated. We most sincerely hope that this request will meet with an earnest response. Those who can should go as delegates to the American Public Health Association.

The railroads in Tennessee, as usual where the public health is concerned, have agreed to do all in their power. Passes will be sent to delegates from other States both ways over the main lines in Tennessee, upon early application by letter to Dr. I. B. Lindsley, No. 78 N. Cherry Street, Nashville, Tennessee.

The hotels of Nashville also offer reduced rates to delegates, and the lines of the Western Telegraph Company are at the service of members for necessary domestic purposes.

NOTES AND QUERIES.

A NEW REMEDY FOR HAY FEVER.

To the Editor of the Medical Times:

Dear Doctor,—Apropos of your recent editorial notice of the veil in hay fever, allow me to recommend a new remedy I tried, more as an experiment, in a patient of mine two years ago this summer, but which proved a success. This gentleman had been for years a victim to that disease. Two years ago he tried my remedy for the first time, and since then he has been perfectly free of that dreadful disease during the last two summers. This consisted in placing two well-cleaned pieces of fine sponge of a proper size to be well fitted in each side of the nasal passages, and to be kept moistened all the time with pure water. For this purpose my patient always carried a small bottle full of water in his pocket. The sponge is to be worn day and night, and until the season and susceptibility for taking the disease are over. The sponge also must be washed and cleaned, or, better still, be replaced by new pieces every day, these having been prepared beforehand and introduced into the nostrils immediately the others are removed. The patient, of course, must get used to breathe through his mouth, as the sponge will prevent him from breathing through his nose.

You will see, Mr. Editor, my remedy is a simple but efficient one, and I have no doubt you will agree with me when I state that those that will try it will prefer it, for many reasons, to wearing a veil.

I need not explain the modus operandi of this simple little contrivance, as any one can see at a glance its object, which is to strain the air, and thus prevent the poison from getting into the nasal cavities, etc.; this is done thoroughly and effectually by the sponge respirators.

In conclusion, I will ask my brother practitioners to try and recommend to their patients afflicted with that disease the above remedy, which I found so useful and effectual in the case already cited, and to report the result of their experience and success through the medical journals.

JULIO J. LAMADRID.

Brooklyn, October 27, 1879.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 22, 1879.

ORIGINAL COMMUNICATIONS.

ON SOME OF THE CAUSES DETERMINING THE NATURE OF THE EFFUSION IN INFLAMMATION OF THE VISCERAL PLEURA, WITH REMARKS UPON THE PROPHYLACTIC TREATMENT OF EMPYEMA.

Read at the Meeting of the Pathological Society, September 25, 1879,

BY FREDERICK P. HENRY, M.D.,
Physician to the Hospital of the P. E. Church.

IN order to an understanding of the proper subject matter of this paper, some preliminary remarks concerning the physiology of respiration and the pulmonary circulation are absolutely necessary.

Among the numerous aids to the circulation of the blood, accessory to the propulsive power exerted by the heart, that afforded by respiration is mentioned by most physiologists. With each inspiration a *vis a fronte* is evoked, without which it would almost seem as if the sluggish current in the venæ cavæ might, in certain states of adynamia, proceed to complete stagnation. No delicate experiments are needed to demonstrate this inspiratory force. When abolished by holding the breath, the veins of the head and neck swell visibly, while, on the other hand, the danger of the entry of air into the veins is one against which all surgeons are on guard during the performance of operations in the cervical regions. Although acknowledged as a valuable aid to the general circulation, the influence of this force upon the lesser or pulmonic circulation is not so manifest, and chiefly, perhaps, because the necessity of its assistance is not so apparent, owing to the comparatively short circuit traversed by the blood. Certain well-marked anatomical peculiarities of the pulmonary vessels offer strong presumptive evidence in favor of the view that inspiration is an important aid to the pulmonary circulation. These are the straight course of the vessels and the absence of anastomoses,—facts, however, which might with equal propriety be adduced as favoring the view that the heart is alone concerned in the propulsion of the blood, did not experiments definitely decide the question. Ludwig[*] found that blood injected into the pulmonary artery passed with difficulty when the lung was collapsed, quickly when it was moderately distended with air, and when fully distended the stream at first passed quickly but soon became slow. It is thus seen that the condition of lung most favorable to the pulmonary circulation is that of moderate distention, which obtains, in life, during the inspiratory act of tranquil respiration; while the condition least favorable is that of collapse,[†] an approximation towards which is made, during life, at the close of expiration.

Some further remarks concerning the mechanism of respiration cannot be dispensed with.

"The quantity of air which is habitually and almost uniformly changed in each act of breathing is called by Mr. Hutchinson *breathing air.* The quantity over and above this which a man can draw into the lungs in the deepest inspiration he names *complemental air:* its amount is various. . . . After ordinary expiration, such as that which expels the *breathing air*, a certain quantity of air remains in the lungs, which may be expelled by a forcible and deeper expiration; this he terms *reserve air.* But even after the most violent expiratory effort the lungs are not completely emptied: a certain quantity always remains in them over which there is no voluntary control, and which may be called *residual air.*"[‡]

The above quotation deals with facts which, once presented, are admitted by all, and, for our present purpose, is valuable as affording a classification and nomenclature of the different volumes of air, stationary and fluctuating, concerned in the act of respiration. I prefer the term "tidal air" to that of "breathing air," and will substitute it in this paper.

In the earliest stage of pleurisy the nature of the respiration is altered. The costal type is, as far as possible, changed to abdominal, while the respirations are shallow and, consequently, increased in frequency. This is done instinctively, with a view to mitigate the pain produced by friction upon the inflamed pleura. Now it will be found, on experiment, that there are two principal methods by which the chest-walls can be maintained almost immovable and the respiration be carried on chiefly by the diaphragm.

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[*] Wagner's Manual of General Pathology, p. 157.

[†] By the term "collapse" is here meant the post-mortem condition of a healthy lung removed from the thoracic cavity.

[‡] Kirke's Handbook of Physiology.

In the first method the thorax is expanded; the inspiratory muscles are in a state of tonic contraction, and the gaseous interchanges are performed, not by means of the tidal air of normal respiration, but through the medium of what is normally the complemental air, and the reserve air is increased by the addition of the normal tidal. The lungs and the entire pulmonary circulation are permanently maintained in a position closely approximating to that which exists normally only at the height of inspiration.

The second principal method by which diaphragmatic respiration may be carried on while the costal type is suppressed is as follows: the inspiratory muscles are relaxed; the thorax consequently is retracted, and the shallow and rapid respirations are carried on either entirely by the normal reserve air or partly by it and partly by a portion of the normal tidal air. In either case the permanent condition of the lung and of the pulmonary circulation closely resembles that which exists normally at the close of expiration. This method is not so easily imitated as the former. For its proper performance a sharp pain in the side is essential; nevertheless any one who will make the experiment, especially in the recumbent position, will, I think, readily convince himself that such a mode of respiration, even in health, may be maintained for a considerable length of time. Of these two types of diaphragmatic respiration, the latter I believe, both on *a priori* grounds and from observation, to be the one that exists in all cases of acute pleurisy. The former type is rendered impossible by the great fatigue induced by tonic contraction of the inspiratory muscles, and the pain induced by tension of the inflamed pleura.

We have now to consider the state of the pulmonary circulation during expiration, and the probable effect of a continuance of that state in inflammation of the pleura.

Ludwig found, as has already been stated, that blood injected into the pulmonary artery passed with difficulty when the lung was collapsed,—that is, removed from the body. The amount of air contained in such a lung varies, other things being equal, according to the rigidity of the tissues composing it, being less in youth than in old age; but the condition of such a lung is not so far removed from that of the living lung at the close of expiration as might at first be supposed, "for, after death, the lungs are not so empty of air as after forced expiration during life."* We may, therefore, take this experiment of Ludwig as a guide to our inquiry. In stating that the blood passed with difficulty, no opinion or surmise is expressed as to the seat of obstruction, nor is there any statement, in Wagner's quotation, as to the kind of blood used in the experiment. The obstruction may have been in the arteries, capillaries, or veins. If arterial, it would be followed, in the living lung, by venous congestion, as has been shown by Cohnheim in his experiments upon embolic processes. If capillary, it would be equally followed by venous congestion, although with more participation on the part of the smaller arteries. Obstruction to the flow of blood at any point before the origin of the veins will lead to venous congestion. For proof of this I would refer to what takes place in the disease-process known as cholera kidney. In the kidney, with its double set of capillaries, there is, in these minute vessels, an amount of resistance to be overcome greater, probably, than exists in any other vascular district of the body. It is in the capillaries of the gland that the first obstruction to the low blood-pressure of cholera is opposed, and this is immediately followed by venous hyperæmia. Finally, if the obstruction be venous, it will first affect the distal portion of the veins, and this would occur all the more readily as the pulmonary veins are destitute of valves.

I have thus endeavored to show that the lung assumes an expiratory position when its serous covering is inflamed; that, in this position, there is obstruction to the pulmonary circulation; and, finally, that this obstruction is especially manifested in the primary venous radicles,—that is to say, in that portion of the vascular system where our present knowledge teaches us the most essential part of the inflammatory process occurs, the migration of the white blood-cells.†

It is not pretended that inflammation is in any sense of the word a mechanical process, but it is firmly held by the writer that there are certain physical properties of the different tissues and organs that influence its progress and termination, if not its origin, and that they are not to be excluded from a proper consideration of its therapeutics. I have elsewhere shown that a high degree of elasticity is possessed by the kidney; and that this property has a regulating influence upon the secretion in health, and is not without influence upon processes, I think highly probable. The elasticity of the kidney was proved by a case in which the gland was the seat of a large inspissated abscess, and in which there was complete occlusion of the ureter. The pus, when fluid, must have occupied a much larger space, nevertheless the remaining cortex of the gland was closely applied to the inspissated pus, and its surface was not puckered. Nothing but elasticity could entirely account for such a condition. My concluding remarks upon this subject were as follows: "It must be borne in mind that the ureter was occluded, and, therefore, with the absorption of the exudation there was, as it were, a constant tendency towards the formation of a vacuum, which was prevented by the retraction of the encapsuling kidney. *It has clung to the disappearing exudation as the thoracic walls cling to the retiring lung.* In short, there are three factors capable of producing such a result, namely, the elasticity of the organ, the suction force above described, and, perhaps, some degree of cicatricial contraction."* The absence of puckering of the surface went to prove that elasticity was the chief factor concerned.

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* Marshall's Physiology, American ed., p. 819.

† See Green's Pathology, 3d London ed., p. 208.

In considering pleuritic effusions I propose to treat of two varieties only, the purulent and the non-purulent, leaving out of consideration the hemorrhagic form, which is generally symptomatic of the hemorrhagic diathesis, of tubercular pleuritis, or of disease-processes in the pseudomembrane analogous to those of pachymeningitis hæmorrhagica.

No sharp dividing-line can be drawn between purulent and non-purulent effusions, the difference between them depending solely upon the different quantities of pus-cells which they contain. In a clinical point of view, however, the difference is so great that two distinct affections are treated of, although their primary pathological processes are, in most cases, identical. It is rare that a pleuritic effusion is purulent from the start. Fraentzel says that "primary purulent pleuritis is of extremely rare occurrence. In almost every case the effusion is at first fibrino-serous, and it is during the subsequent course that it becomes, sooner or later, purulent, and this may occur as early as the first week."† The form of the disease in which the effusion is from the beginning purulent is known as "pleuritis acutissima," but it is exceedingly rare. Fraentzel had observed only three cases of it, although his attention had been called to the affection by Traube in the year 1860.‡

Since, then, in the great majority of cases, pleuritic effusions are at first non-purulent, a consideration of the causes leading to the purulent change is evidently of great importance, as through it alone can a treatment designed to prevent such change be rationally instituted.

The earliest manifestation of inflammation of the pleura is hyperæmia of an active nature, accompanied with exudation of liquor sanguinis, emigration of white blood-cells, and increased activity of the endothelial elements. The inflammatory stasis that speedily supervenes in the capillaries causes, by its obstruction, as I have endeavored to show in the foregoing pages, and as is proved by experiments upon the transparent tissues of animals, an early engorgement of the primary venous radicles, and this engorgement is still further added to by the expiratory position in which the lung is maintained on account of the pain. The conditions, therefore, are in the highest degree favorable to the emigration of white blood-cells,—that is, to the production of pus. The fact that the pulmonary vein contains arterial blood may be a provision of nature against this tendency to cell-migration, but it is the fibrin now flowing upon the pleural surface that opposes the principal barrier. Whether fibrin be a simple or compound substance; whether its origin be in the blood, as held by Rindfleisch, or in the inflamed tissues, as held by Virchow;§ whether it be nutritious or excrementitious, it is certain that this substance is apt to preponderate in the inflammatory products of serous inflammations occurring in robust persons. The migrating cells are entangled in its meshes before reaching the pleural cavity, and one of its offices here, as in the case of incised wounds, is undoubtedly the formation of a "*scaffolding*," by means of which the building up of the cells into fibres and blood-vessels may take place.

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* Path. Soc. Trans., Phila., vol. vi. p. 90.

† Ziemssen's Cyclopædia, vol. iv. p. 611.

‡ See foot-note on p. 603, vol. iv., Ziemssen's Cyclopædia.

§ Rindfleisch's Manual of Pathological Histology, p. 259, Phila. edition.

A further proof that fibrin interposes a barrier to suppuration is found in the fact that the first step in the conversion of a fibrino-serous into a purulent effusion is the dissolution of the fibrin deposited upon the pleura. In discussing the earliest steps of this conversion, Rindfleisch remarks, "Large shreds of the pseudomembrane are loosened and detached from their resting-place, then to liquefy into pus."* Without pausing to criticise the expression "liquefy into pus," which may possibly be an incorrect rendering of the original text, I would particularly call attention to this first stage of empyema thus described by this eminent authority in pathology, as allusion will again be made to it in discussing the prophylactic treatment of empyema.

During the stage of the disease above referred to, the lung, owing to the pain, has been maintained in an expiratory position, and the rapid and shallow respirations have been carried on chiefly by the diaphragm. This is best observed in women, in whom the normal type is "superior costal." At the same time the rhythm of respiration is altered. According to Burdon Sanderson,† the rhythm of normal respiration is as follows: the whole respiration period being 15, inspiration occupies 4, expiration 2, and the pause 9 parts. In the jerky respiration of the acute stage of pleurisy it needs no other instruments than hand, eye, and ear to perceive that this pause is both absolutely and relatively shortened, and that inspiration and expiration are of about equal duration. In so far as the pause at the close of expiration is shortened, the effect in pleurisy upon the circulation, and through it upon the effusion, is conservative: nevertheless this is more than counterbalanced by the permanent expiratory position assumed by the lung.

There is another cause of the expiratory position of the lung, whose influence, at first scarcely felt, gradually increases until its limit, varying in different cases, is reached. This is the effusion, which also for the most part proceeds from the veins. According to the views advocated in this paper, the mechanical compressing action of the effusion may be instrumental in propagating the inflammation. For example, we will suppose a pleurisy beginning at the apex of the lung attended with a moderate effusion. This effusion gravitates to the bottom of the pleural cavity, already predisposed to inflammation by the congestion produced by the expiratory position of the lung assumed on account of the pain. The effusion, by exerting a greater compression, will increase the congestion, and, in combination with other causes, may actually excite inflammation. If this theory be correct, a secondary pleurisy would arise at the base of the lung, and, proceeding from below upward, unite with the primary disease proceeding in the opposite direction. Such a theory, if true, would be hardly susceptible of proof, because it would be impossible to exclude the irritating qualities of the effusion.

The fact that empyema is generally, at the beginning, a pleurisy with fibrino-serous effusion, is suggestive in more ways than one. I have alluded to one of the methods by which this change may take place,—a change, I repeat, which, in a pathological sense, is merely one of degree. This is by the breaking up of the barrier of fibrin. Any cause leading to this unfortunate result will tend to convert the disease into empyema. These causes are such as interfere with the healing of wounds by first intention, where also a certain amount of fibrin is necessary to support the cells during their metamorphoses. Among these causes may be mentioned pyæmia, septicæmia, and the infectious diseases. If with any such, or similar conditions of dyscrasia, there is also an increase of the white blood-cells, the change to empyema is still further favored. Such a condition is found in scarlatina,‡ and in this affection empyema is by no means rare. I have met with a case, fully reported elsewhere, in which empyema supervened upon a prolonged attack of intermittent fever,—that is to say, during a condition of the system in which it is almost absolutely certain that there was not only increase of the white corpuscles but also diminution of the red.

Virginia S., æt. 24, was admitted to the

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* Path. Hist., Am. ed., p. 269.

† Marshall's Physiology, Am. ed., p. 814.

‡ Ziemssen's Cyclopædia, vol. ii. p. 234.

Episcopal Hospital on September 27, 1874. Her illness, which had lasted about a year, began with a chill, followed by pain in the left side, cough, and swelling of feet and legs. She had suffered from *chills and fever* during the entire summer of 1873. It is, of course, necessary to be careful not to confound such *chills and fever* with the similar symptoms that often attend the process of suppuration. There was no doubt, in the case referred to, that the intermittent fever was of malarial origin, and the state of the blood thereby produced was manifested not only by the effusion of pus into the inflamed pleura, but also by the occurrence of œdema of the lower extremities at a very early stage of the case. The chills and fevers were not the hectic of phthisis, for at the post-mortem examination of the case, which was made January 7, 1875, the only indications were "a few caseous nodules at the right apex,"—an amount of disease often found at the autopsies of subjects that had not been considered phthisical during life. The empyema was on the left side, and the "lung was compressed into a firm oblong mass, not much larger than the fist, and lay in the upper and back part of the cavity, being closely bound down to the vertebræ."* This lung was carnified, but not the seat of caseous or tubercular deposit. Indeed, the occurrence of large effusion,—and at the third tapping of this case, for the purpose of inserting a drainage-tube, five quarts of pus were removed,—the occurrence, I repeat, of large effusion argues in favor of a comparatively healthy condition of lung at the beginning of the pleurisy, for it is self-evident that a solidified lung forbids any great accumulation of fluid in the pleura. A certain amount of inflammation of the lung exercises a conservative influence against the occurrence of effusion, and it is the opinion of the writer, founded upon the clinical study of pleurisy, that in acute cases, where the fibrinous element largely preponderates and the fluid effusion is small, there is generally a decided amount of inflammation of the peripheral parenchyma of the lung; that is to say, the case is one of pleuro-pneumonia. When there is large effusion, on the other hand, the inflammation is more strictly confined to the pleura. I admit, however, that this interesting point is one demanding further study.

But the most interesting question in connection with the origin of empyema is, whether a serous effusion may, by its mere pressure, keep up such a degree of venous congestion as to lead to sufficient cell-emigration to convert the effusion into pus. That a certain degree of pressure has the effect of keeping up the inflammatory process until the subserous connective tissue is extensively involved, and a granulating, pus-discharging surface formed in the site of the pleura, is, I think, highly probable, but the degree of this pressure cannot be ascertained even for a single individual, and it probably differs in all. Pressure of the effusion, independent of the continuance of inflammation, according to its amount, produces one of two effects. One degree, by the peripheral venous congestion it produces, promotes effusion; a still greater degree prevents it entirely, and the fluid arrives at a state of stagnation, by which I mean that it is neither added to nor diminished. This is the condition met with in many chronic pleurisies when they first come under our notice. The disease-process appears to have come to a complete stand-still, and, if we choose to so consider it, this counter-pressure upon the blood-vessels, by which further effusion is prevented, is an instance of the much-vaunted "*vis medicatrix naturæ.*" Apart from its absorption, the duration of this stationary condition of the effusion depends upon two things: the power of resistance of the patient, and, if the effusion be purulent, the supervention, or not, of necrosis of neighboring tissues. If such necrosis is accompanied with inflammation, the fluid may increase before it perforates; in the absence of fresh inflammation, there is no further effusion. Withdrawal of the fluid, or a portion of it, by relieving the walls of the vessels from counter-pressure may again place them in a condition favorable to further effusion. On the other hand, it may also place them in a condition favorable to absorption; and that this condition is probably largely mechanical, is proved by the following quotation from Dr. Bowditch's paper on Pleuritic Effusions:† "Dr. Wyman assures me that he operated in one case of chronic pleurisy eight or ten times, and there was no permanent relief until the last puncture, at which less fluid was drawn off than at any previous one, and yet the patient apparently obtained greater relief from it than from all the others."

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* Path. Soc. Trans., Phila., vol. v.

† Am. Jour. Med. Sci., April, 1852.

Dr. Bowditch attributes the recurrence of effusion after repeated tapping to a "habit of effusion gained by the pleura." From this "habit" he infers the early removal of the fluid, and is, I think, in most cases, entirely correct in his inference. Still, the argument founded on "habit," although leading to a correct result, is not sufficiently convincing: one naturally demands something more in the way of a reason. That the degree of pressure upon the exterior of the walls of the vessels has a great influence upon the process of absorption, either inhibiting it, not opposing it, or favoring it,—as it is well known that pressure favors osmosis,—is, I think, indubitable. At the same time, this opinion, it must be remembered, is founded upon the supposition that the walls of the blood-vessels are healthy; and that they are so, after prolonged compression of the tissue surrounding them, is highly problematical. Although not strictly analogous, I may here refer to Cohnheim's experiments in interrupting the circulation through the renal artery. After removal of the ligature the veins became dilated, and from them there issued an abundant emigration of white blood-corpuscles together with blood-plasma.* It was an alteration in the nutrition of the vessels that led to this result, and a similar alteration may attack the walls of the blood-vessels of the lung after prolonged interference with their supply of blood by a large pleuritic effusion. Such a disease of the blood-vessel walls would serve to explain the numerous cases in which what was a serous effusion at a first tapping or aspiration has been found to be purulent at a second or third. These changes in the walls of the veins, consequent upon a prolonged interference with the circulation, are of an extremely delicate nature, for Cohnheim "was never able to discover the slightest alteration in the minute histological structure of vessels that had been thus a long while deprived of the contact of the blood that should have circulated through them."† The fact of the conversion of a serous into a purulent effusion after operative interference is notorious, and has been attributed to the admission of disease-germs, and to the traumatic irritation of the pleura, but neither of these explanations can withstand criticism, for similar interference with other serous cavities is not followed by the same result. The effect is partly mechanical, the counter-pressure being withdrawn to such an extent as to favor exudation, and partly vital, owing to a change in the walls of the vessels, more especially of the smaller veins.

It would appear, on superficial consideration, that if the prolonged duration of the effusion favor its purulent metamorphosis, all cases of pleurisy, after a certain length of time, should be converted into empyemas, or at least that cases of empyema should be of a more chronic nature than those in which the effusion is fibrinoserous. But the question is not so simple. A serous effusion, if sufficiently large to prevent by its counter-pressure any further effusion, may remain serous indefinitely if not interfered with. This is not the case with a purulent effusion, whose tendency is to seek an outlet in the direction of least resistance. I began the analysis of a series of cases with the object of comparing the chronicity of the two affections, but abandoned it after becoming convinced of the negative nature of the evidence thereby afforded. I submit the figures, however, as they possess a certain degree of interest.

In vol. xxvii. of the Medico-Chirurgical Transactions is an article on paracentesis thoracis, by Hamilton Roe, M.D., of London, which contains two sets of tables, the first containing thirty-nine cases, being all that had been "published in the English language between the years 1812 and 1832, inclusive," the second containing twenty-four cases of paracentesis performed under his own observation or that of his friends. Of these sixty-three cases twenty-nine were cases of empyema and twenty-six cases of "inflammatory hydrothorax,"—that is, pleurisy. Leaving out one case of empyema of seven years' duration and one of pleurisy of three years', and one of sero-sanguinolent effusion, I obtained for analysis twenty-five cases of empyema and twelve of pleurisy, in which the duration of the disease previous to operation was given. The result was that the average duration of the empyema cases was ninety-eight days and that of the pleurisy cases ninety-seven days.

In Guy's Hospital Reports for 1877 is an article on empyema, by Dr. James Goodhart, containing a table of seventy-seven cases of empyema treated by operation. It is made up in nearly equal proportions of cases treated at Guy's Hospital during the preceeding ten years, and of similar cases treated at the Evelina Hospital for children since its foundation in 1869. Although not available for any present purpose of comparison, it is interesting as showing the more acute course and greater frequency of the disease in children. Leaving out the cases in which there were sinuses on admission and those in which the duration of the disease was doubtful, I obtained thirty-three cases occurring in children ten years of age or under, and twenty-six in individuals over that age. The first set gave an average duration of forty-nine days; the second, of sixty-nine days.

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* Ziemssen's Cyclopædia, vol. xv. p. 230.

† Ibid., p. 224.

I am aware that there are numerous sources of fallacy in all such statistics, and it was this conviction that induced me to discontinue my researches in this direction.

It is the opinion of most authorities that the chronicity of a pleurisy is no proof of its purulent nature, or, at least, that it affords no guide to diagnosis. In the volume of the *American Journal of the Medical Sciences* for 1852 are two admirable articles upon the subject of pleuritic effusions, one in the January number, by the late Dr. Pepper, of Philadelphia, the other in the April number, by Dr. Bowditch, of Boston. In discussing their diagnosis, Dr. Pepper says that the chronicity of the effusion affords no guide, while Dr. Bowditch remarks, in the same connection, "The chronic nature of the complaint affords no criterion by which to judge." This is true in a certain sense, not so in another, for in an acute case there is, as a general rule, little question of pus, while in a chronic case this question always arises. The acute cases, with moderate effusion, are generally cured by medicinal treatment. The prognosis of complete uncomplicated pleurisy is good. In fact, there are two well-marked diseases, clinically speaking, under the head of pleurisy, an acute and a chronic affection, and under the second head comes empyema, so that the duration of the affection does afford some guide to diagnosis. That Dr. Pepper believed in the power of time, in combination with other causes, to convert a pleurisy into empyema, appears from the following remark concerning the first case reported in his paper: "In the above case it would appear that the acute pleurisy, contracted in the spring of 1842, was, from neglect or inefficient treatment, allowed to degenerate into chronic empyema." Time may, in most cases, be said to predispose to empyema, and especially in the class of hospital patients, in whom other depressing causes are almost invariably associated. There is one theory regarding the conversion of a serous into a purulent effusion for which time is essential, viz., that which attributes it, in great measure, to continued subdivision of its contained leucocytes. This theory is held by Fraentzel, and partially admitted by Rindfleisch: nevertheless I am not willing to ascribe to such a cause any great degree of influence in the conversion of serum into pus. If such a cause were commonly operative, empyema would be much more commonly met with. The process of cell-division has its limit, and once the cells are suspended in the effusion, and freed from any further nutritive influence other than that supplied by the fluid surrounding them, that limit is probably very soon reached.

Another cause leading to large effusions of serum, and predisposing to empyema, is probably congenital. The extent of the respiratory movement differs in every individual, and is known as the respiratory or vital capacity; and the point of thoracic equilibrium, the pivot, as it were, upon which these movements turn, of necessity also differs. It is highly probable, for example, that if this centre of movement be congenitally high and, at the same time, the respiratory capacity be small,—if, in short, owing to the individual idiosyncrasy, the thorax be maintained in a position of inspiratory expansion,—there is a strong predisposition to the development of emphysema. This is the theory of emphysema advocated by Freund,* who attributes the inspiratory position to a nutritive lesion of the costal cartilages, although he considers it as acquired rather than congenital. If, on the other hand, the point of thoracic equilibrium be congenitally low, and the respiratory capacity small, a tendency to venous congestion in the pulmonary venous radicles is part of the constitutional inheritance of the individual, and a pleurisy attacking such a subject would, in accordance with the views herewith submitted, be probably attended with large serous or purulent effusion. Corroboration of this theory would not be found in an antagonism between emphysema and pleurisy, if such could be shown to exist, as emphysema also predisposes to venous congestion, for it will be remembered that in Ludwig's experiment, when the lung was greatly distended with air, the blood-stream at first passed rapidly but soon became slow. These two conditions of lung, the inspiratory and the expiratory, in their effect upon the circulation, afford an instance of the meeting of extremes.

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* Ziemssen, vol. v. p. 359.

It remains to be considered what therapeutical deductions are to be drawn from the preceding general principles. In the present paper, this question is limited to the inquiry whether we have any means at our command by which we can prevent the degeneration of a fibrino-serous into a purulent effusion.

As regards a prophylactic treatment based upon the shape of the thorax and the want of development of the respiratory muscles, there is little to be said, for if general considerations of health do not lead to the proper development of this part of the body by judicious exercise, the possibility that an attack of pleurisy occurring in such an individual may degenerate into an empyema will certainly not do so.

The earliest symptom of acute pleurisy pain is to be combated with a full dose of some preparation of opium. There has been much discussion regarding the influence of pain in disease, the result of which has been, in many cases, the decision that pain, *per se*, exerts a positively injurious effect upon the local affection. Such statements should be received with caution. When, after the administration of a full narcotic dose, an inflammatory disease is speedily recovered from, the first question should be, What is the natural duration of this disease? A few cases of painful inflammation speedily recovered from under full doses of narcotics are not sufficient to settle this important question. There is at least one important principle concerned, which is this: when pain *through its interference with function leads to congestion*, its removal exerts a direct curative influence upon disease; otherwise its removal can exert but an indirect curative influence through the general nervous system. In pleurisy, as I have endeavored to show, pain, by its interference with function, promotes congestion, and its removal, in that it permits of a freer movement of the lung, is the first indication. Such a doctrine would, at first sight, seem opposed to the usual treatment of inflammation by rest, but this rest is always qualified by the phrase, "in the proper position,"—that is to say, in a position calculated to diminish venous congestion. Position is more important than rest.

Experience has already shown the value of opium in the earliest stage of pleurisy, but the therapeutics that is founded upon experience solely, although perhaps the best, does not command universal assent, because the nature of the experience, its amount and quality, have always to be taken into consideration; but if this experience can be shown to have been founded, although perhaps unconsciously, upon the most fundamental pathological processes of the affection, the authority of experience is such as to command assent. Until this is done, valuable time will be lost, and lives perhaps endangered, by mere tentative experiments in other therapeutic directions, by those ambitious to discover specifics, and also by those—a numerous class—who on all subjects instinctively range themselves upon the side of the opposition.

The question of bleeding is one of great importance. That bleeding is beneficial in the earliest stages of pleurisy, in many cases, there can, I think, be no manner of doubt. Such is the universal testimony of most clinical teachers during the first half of this century, and this testimony it is impossible to refute without a resort to the extreme position of a change in the type of disease. But in order that good may result from bleeding, it is not to be resorted to without great discrimination. In the first place, its use should be confined to the first stage. For the purpose of promoting absorption of the effused fluid, we have agents quite as efficacious as bleeding, and free from its disadvantages. The influence of bleeding for good or evil in pleurisy can only be thoroughly appreciated by a close study of the pathology of the disease. In the earliest stage of pleurisy the fibrinous barrier to suppuration is forming upon the pleura, but forming slowly, as it is the nature of fibrin contained in inflammatory blood to coagulate slowly, although the coagulum once formed is of the densest kind, in order to oppose suppuration to the utmost extent. Bleeding will hasten the coagulation of the fibrin, as it is well known that in venesection the blood first withdrawn coagulates more slowly than that last drawn, but the clot will not be so firm. It becomes a question, therefore, whether more will be gained by venesection and the consequent rapid formation of a layer of fibrin of loose texture, than by the slower formation of a denser layer, such as would be the effect of leaving the process to nature. It is a question requiring careful and prompt decision, as after the first twenty-four hours little can be expected from bleeding. Bleeding acts favorably also by diminishing pain and thereby favoring the freer movement of the lung. As regards the form of bleeding, I give the preference to wet cups applied over or near the seat of pain, as in this way probably the greatest relief will be obtained. Bleeding should not be resorted to except in the case of robust individuals. In anæmic individuals, where bleeding cannot be resorted to, the chief reliance is to be placed upon opium and quinia. It has been shown that quinia diminishes the amœboid movement of the white blood-cells, and so it is inferred that it is opposed to suppuration. Whether this be so or not, it is perhaps our most valuable antipyretic and tonic, although its value as an antipyretic in the fever of inflammatory diseases has not been, in my experience, so great as in the fever of the infectious diseases. I do not think it necessary to administer it in the earliest stage of acute pleurisy occurring in robust people, relying chiefly in those cases upon opium and wet cups.

The prophylactic treatment of the effusion—that is, the treatment designed to prevent its purulent degeneration—is medicinal and surgical. The chief drug to be relied upon is quinia, both with the object of preventing further cell-migration and for the purpose of preventing further activity in the cells contained in the effusion. Surgical treatment is not to be instituted while the effusion is in the acute stage and rapidly progressing. In Bowditch's eighth case,* tapping was resorted to on the seventh day of the disease and thirteen ounces of serous fluid were removed: five days afterwards "the signs of effusion were fully as great as at first." The case recovered eventually without subsequent tapping, was well on the thirty-ninth day, and probably would have done as well under medicinal treatment alone. But when the effusion has ceased and has remained stationary for some days—it is, of course, impossible to lay down any absolute rule as regards time—the removal of a small proportion of the fluid by aspiration is indicated. My own experience would lead me, in the absence of any alarming symptoms of dyspnœa, to wait at least a week after the effusion has become stationary, before resorting to aspiration. The energetic employment of counter-irritants, diaphoretics, such as jaborandi, or its alkaloid used hypodermically, and diuretics, is generally followed by a rapid reduction of the serous effusion, and a gradual restoration to health, provided the case has been properly treated from the beginning.

The treatment of purulent effusions does not come within the scope of this paper.

HOT WATER AS A HÆMOSTATIC IN SURGERY.

Read before the Philadelphia County Medical Society, October 8, 1879,

BY CHAS. T. HUNTER, M.D.,

Demonstrator of Surgery, University of Pennsylvania.

IT is doubtless a matter of common observation among surgeons that recent wounds, and more especially those made by operation, oftentimes bleed profusely, even after all the larger vessels have been secured by ligatures or other mechanical means. This tendency to parenchymatous hemorrhage may be due to several causes, among which are a hemorrhagic diathesis, local obstruction to the venous circulation of a part, the temporary paralysis of the vaso-motor nerves, the reaction consequent on return of consciousness from a state of profound etherization, etc.

Wounds made by operations performed with antiseptic precautions seem, likewise, to show a decided predisposition to profuse oozing, and the same condition obtains whenever Esmarch's apparatus is relied on to control hemorrhage during an operation. The dilatation of the vessels of a part that has been the seat of a morbid growth should also be enumerated among the causes that favor this variety of hemorrhage.

In many instances parenchymatous hemorrhage ceases spontaneously before the larger vessels are secured; but, on the other hand, it may obstinately persist till the life of the patient is brought into jeopardy, unless some means are resorted to that will promptly check the continuous outflow of the vital fluid. Now, in the treatment of this form of hemorrhage the question naturally arises, What agent has the surgeon that will quickly and thoroughly arrest the escape of blood from the large number of vessels, scattered over the surface of the wound, too small for ligatures, and will, at the same time, have no injurious influence on the subsequent progress of the case?

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* Am. Jour. Med. Sci., April, 1852.

It will, I think, be generally conceded that the means heretofore used do not fully meet these requirements. The routine treatment usually followed is, first, to try the effects of exposure of the wound to cold air and repeated douches of very cold water; then, if these comparatively harmless means fail, some of the various styptics are called into requisition. The virtues of these hæmostatics reside in the properties possessed by them of exciting contraction of the vessels and the tissue in which they lie, and of producing coagulation of blood in the patulous extremities of these vessels, thereby affording a mechanical obstruction to the further escape of blood. So far as the hæmostatic effects of these agents, especially the so-called chemical styptics, are concerned, they are generally all that can be desired; but, in consequence of their specific action in recent wounds, union by the first intention is rarely ever obtained when they are employed: therefore any hæmostatic apparently free from this important objection is certainly worthy of a fair trial.

During the past winter I saw several notices, in the current medical journals, of the efficacy of hot-water injections as a means of controlling uterine hemorrhage, and it occurred to me that the same agent might be equally serviceable as a hæmostatic in general surgery. Fully impressed with this idea, I determined to test the supposed hæmostatic virtues of hot water in the first favorable case that presented itself. I had not long to wait for the desired opportunity, for on the 4th of March, 1879, J. P., an engineer in the employ of the Pennsylvania Railroad Company, was brought to the University Hospital with one of his legs so terribly crushed—the result of a railroad accident that had occurred some six hours previously—that immediate amputation was deemed necessary. As soon as the necessary arrangements had been made for an operation, I proceeded to amputate the leg at the upper third, making a short anterior skin and a long posterior musculo-cutaneous flap. In consequence of the enormous size of this patient's thigh,—the man himself weighed something over two hundred and thirty pounds,—I was unable satisfactorily to control the femoral artery with an ordinary tourniquet: therefore, in order to give greater security against hemorrhage, I encircled the limb just above the knee with Esmarch's elastic tube. After having secured the main arteries with catgut ligatures I had the elastic tube and the tourniquet removed from the thigh, when profuse parenchymatous hemorrhage immediately followed from all parts of the large wound. Vessel after vessel was ligatured, till twenty-five ligatures were applied, but without completely checking the hemorrhage. It now became evident that other means than ligatures would have to be used. This patient had lost considerable blood before his admission, which fact, combined with his extremely depressed condition, consequent upon the operation and prolonged etherization, made me doubtful as to the advisability of drenching the stump with cold water, with a view to stopping the oozing; for, under the circumstances, this treatment would have had the effect of lowering his bodily temperature, thereby increasing the tendency to secondary shock. The peculiar conditions of this case at this stage led me to believe that here was a capital opportunity for testing the efficacy of hot water as a hæmostatic: thereupon I had some hot water brought into the ward, which I proceeded to apply to the oozing surface by means of a sponge. After three or four applications of the water, as hot as I could bear without pain, I had the satisfaction of seeing the wound blanch and all bleeding cease. I then was able to close the wound without further delay.

Soon after this I received the February number of the London *Practitioner* for 1879, which contained an interesting paper on "Hot Water as a Hæmostatic in Surgery," contributed by Charles B. Keetley, Assistant Surgeon to the West London Hospital. In this paper Mr. Keetley claims to have used hot water to check oozing, in a case of amputation of a thigh, as long ago as July, 1878, and in several cases of epistaxis, with decided success.

Dr. F. H. Hamilton, of New York, in a communication to the *Buffalo Medical and Surgical Journal* for April, 1879, speaks of having applied hot water at almost boiling temperature, by sponges held in forceps, to recent wounds, for the purpose of arresting parenchymatous hemorrhage. Water at this high temperature, Dr. Hamilton maintains, acts promptly by shutting up the small vessels, and does not prevent union by the first intention. The testimony of two such high authorities in favor of the employment of hot water as a hæmostatic served to confirm the views that I had already independently formed concerning the efficacy of this agent, and made me especially desirous of a more extended experience in its use.

On May 26, 1879, a lad æt. 17 was admitted to the University Hospital on account of avulsion of his right arm at the shoulder-joint. This extremity, together with the integuments overlying the corresponding scapula, was torn off by a rapidly-revolving cotton-picker, on which he had accidentally fallen. The wound resulting from this horrible accident was so extensive that, before its edges could be brought together, I found it necessary to dissect out the uncovered shoulder-blade, thereby making the operation an amputation above the shoulder-joint. Profuse parenchymatous hemorrhage immediately ensued; but, as I had kept close to the scapula while separating it from its attachments, no vessel worthy of a ligature had been cut. After waiting a few minutes and detecting no visible diminution in the quantity of blood escaping, I called for some very hot water, and applied it to the surface of the wound by compresses. Three renewals of the hot compresses sufficed to arrest entirely the oozing, and left the wound in condition to be closed at once.

During the past summer I have had repeated opportunities of testing the efficacy of hot water in the treatment of parenchymatous hemorrhage, and in not a single case have I been disappointed in its prompt action where it has been properly applied.

In the use of this remedy certain rules must be observed, for otherwise failure will be sure to follow, and, as a consequence, unmerited neglect of a valuable surgical aid will be the result. As may be imagined, the determination of what the temperature of the water should be is a matter of the greatest importance, for if it be too low the water will serve to keep up the bleeding; if too high, the part to which the water is applied may be scalded or otherwise injured. The majority of obstetricians who have tried this hæmostatic in cases of uterine hemorrhage are of the opinion that the water ought not to exceed 110° F. I am not prepared to question their opinion, for I have never seen hot water used as a means of controlling hemorrhage in cavities; but my experience, thus far, has taught me that this temperature is much too low for checking parenchymatous oozing from external wounds. In hurriedly making use of hot water to check bleeding, I have always depended on my own sensations rather than on a thermometer for regulating the temperature. I never put on a wound a compress or sponge wet with water in which I cannot bear my hand. In taking the temperature of water not sufficiently hot to scald, I ascertained that it varied from 125° to 130° F. In raising the heat by gradually pouring in boiling water, I found that I was not able to keep my hand in it as the temperature approached 135° F.

It would appear, however, from the recorded experience of one or two observers, that this degree of heat is not considered sufficiently high. Dr. Paul R. Brown* states that he has injected into a recent wound water of a temperature of 160° F. without any unpleasant consequences following, and Dr. Hamilton† alleges that he has made use of water almost boiling, to check general oozing. According to both observers, primary union is in no way interfered with by this exceedingly high temperature. To me this is a matter of some surprise, for it is reasonable to suppose that a degree of heat (*i.e.*, 160° F.) sufficient to coagulate albumen would scald living tissues and excite a grade of inflammatory action in the wounded part incompatible with union by the first intention. But if water of 125° or 130° F. be as prompt and efficient in its hæmostatic action as that of 160° F. or higher, I can imagine no good reason why the higher temperature should be preferred to the lower.

The best manner of applying this agent to a bleeding surface, in order that its peculiar effects may be realized as quickly as possible, is a matter that deserves some consideration. In a case of parenchymatous hemorrhage the blood escapes from innumerable small vessels; hence this hæmostatic,—viz., hot water,—to be effective, must be used in such way that all the bleeding points may be reached before it has lost its heat. If hot water be squeezed from a sponge or be poured over the surface of a wound, it will quickly lose its heat by radiation, and consequently its peculiar styptic property in direct proportion. Compresses made of muslin, linen, or towels, of a size sufficient to cover the whole wound, are the readiest and most effective means of conveying hot water to all parts simultaneously. A wet compress of this character, laid smoothly over a wounded surface, will quickly take up the blood as it flows from the patulous vessels, and, at the same time, conduct the heat to their cut extremities and the surrounding connective tissue. To get the full effect of moist heat it is essential that one compress be quickly succeeded by another. Not more than a minute or two should be allowed to intervene between the changes. Frequent reapplications of hot compresses are rendered necessary by the fact that a compress that has lost several degrees of heat will, if kept on a wound, tend to encourage rather than to arrest parenchymatous oozing.

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* Phila. Med. Times, August 30, 1879, p. 569.

† Buffalo Med. and Surg. Journal, April 1879, p. 328.

In a few cases, perhaps, after one or two renewals of a compress, blood will be seen escaping from two or more points; these vessels ought to be ligatured, for the stimulus of the heat, in all probability, will not be sufficient to close them.

To what extent hot water may be depended on in secondary hemorrhage I cannot state, for I have had no personal experience with it in this variety of hemorrhage. That it will promptly arrest the bleeding that not unfrequently attends the downward progress of malignant ulceration as a most dangerous complication I have been assured by Dr. Wm. Hunt, of this city, who has repeatedly tried it in a case of scirrhous ulceration of a breast, which he has under treatment at the present time. This extension of its application is a matter of the highest importance, for it enables a surgeon to place a safe and efficient styptic, one that is always easily procured and may be readily applied, in the hands of an attendant of a patient suffering from some form of malignant ulceration, who may be in hourly danger of suddenly losing his life from hemorrhage.

Probably in no class of cases is the superiority of hot water as a styptic over cold more marked than in those of threatened shock, and exhaustion from hemorrhage, consequent on a prolonged and bloody operation. In such cases repeated drenchings of the wound with ice-cold water for the purpose of checking parenchymatous hemorrhage have the effect of lowering the bodily temperature, and, to an equal extent, weakening the natural recuperative powers. On the other hand, hot water not only acts more promptly as a hæmostatic than cold, but likewise adds materially to the general temperature of the body, and thereby tends to ward off "the depressant action of a serious operation."

When I first began to use this styptic I was exceedingly curious as to what might be the subsequent progress of wounds treated with it. I have been much gratified, however, to find that serous oozing is increased in no appreciable degree, and that final union of wounds is not in the least retarded.

The many advantages that hot water possesses as a hæmostatic over the chemical styptics, so far as its influence on healing is concerned, will be sufficiently obvious to those who have had any practical experience in the use of these agents.

As is the case with many other remedial agents, no satisfactory physiological explanation of the hæmostatic action of hot water has as yet been offered. I am disposed to believe, however, that this agent performs the part of a local stimulant, acting either directly on the vital contractility of the vessels and the connective tissue in which they are imbedded, or indirectly on the vessels through the agency of the vaso-motor nerves. The promptness with which hot water will check profuse parenchymatous hemorrhage in a case in which Esmarch's apparatus is used, would seem to confirm the theory that this hæmostatic acts by stimulating the vaso-motor nerves; for it is pretty generally conceded that the elastic bandage and tube, by their pressure, produce temporary suspension of the function of the nerves that control the calibre of the vessels.

In conclusion, I desire to say that, in consequence of the uniform success that has attended the use of hot water in my practice, both hospital and private, during the last seven months, I feel that I am justified in thus recording my experience with it, and I venture to hope that some of my hearers may be induced to give this simple hæmostatic the fair and impartial trial that it would seem to deserve.

TRANSLATIONS.

Transverse Incision of the Soft Palate as a Preliminary in the Extraction of Naso-Pharyngeal Polypi.—Baekel, of Strasburg (*Bull. Gén. de Thérap.*, vol. ii., 1879, p. 282), uses a scraper, introduced by the wound or by one of the nostrils. To arrest the hemorrhage he uses a porcelain galvano-cautery, so as to avoid cauterizing the neighboring parts. The wound of the palate may be united by two or three silver sutures, or may be left open for the escape of discharges. The transverse incision of the palate gives greater facility for the operation than the antero-posterior incision. There is more bleeding, indeed, but this may easily be controlled. Anæsthesia is always possible.

Ignipuncture in Œdema.—M. Laboulbène recommends that in œdema from cardiac or renal disease, openings should be made in the swollen limbs with heated points instead of lancets, etc., in order to avoid gangrene about the openings.

Artificial Production of Congenital Atrophy of the Spleen.—E. Masoin (*Acad. Roy. de Belgique; Le Concours Méd.*, 1879, p. 81) extirpated the spleen in a male and female rabbit and allowed them to propagate. The result of this experiment, repeated thrice, appeared to be that the spleen of their progeny became decidedly reduced in volume, so that it is probable that a series of extirpations, practised on succeeding generations, might produce complete atrophy of the spleen. More recent experiments show this to be a correct view, since a rabbit, the progeny of splenotomized parents, has been examined while in the full activity of digestion, and the spleen found reduced to a thin tongue of tissue.

Cutaneous Eruptions produced by Chloral.—Martinet (*Thèse de Paris*, 1879) arrives at the following conclusions: 1. The ingestion of chloral excites, in a certain number of individuals, an exanthematic eruption, which may be called chloralic erythema, a sort of scarlatiniform eruption. Some observers have described urticarial and purpuric chloral rashes. 2. The erythema from chloral is seated chiefly upon the face, neck, and front of the chest, neighborhood of the larger articulations on the extensor surface, backs of the hands and feet, etc. It appears after meals or after drinking alcoholic liquors. Most frequently fever is absent and the duration of the eruption is brief. 3. It is accompanied by dyspnœa and by cardiac palpitations, often severe. 4. It occurs in persons predisposed to its influence. 5. It seems to be due to vaso-motor paralysis, as also are the dyspnœa and palpitations which accompany it. In a number of cases recently reported to the Société Clinique, by Mayor, and those noted by Martinet, the eruption seemed to relapse from time to time, even after the discontinuance of the chloral.

Chromidrosis. — Dr. G. Camuset gives an account of this curious and rare disorder, followed by notes of a case (*Le Mouvement Méd.*, 1879, p. 419). According to Camuset, the affection is almost always observed in women, and manifests itself by a slate-black discoloration of the skin in various regions, chiefly the lower eyelids. Sometimes it extends to the middle of the cheek and to the upper lids, symmetrically, on both sides. It has been observed on the chest and elsewhere in localities where the sweat-glands are abundant. The exudation is composed of an amorphous, blackish substance, of strong coloring power, like soot. Under the microscope the fragments look like bits of dried varnish. This material is derived from the glomeruli of the sudoriparous glands: it has nothing in common with the pigment of the rete Malpighi. The color of the material varies in intensity in different cases, and according to the condition of the individual. It is worse at the menstrual period. The affection may last from a few months to several years, with occasional intermissions and remissions. It leaves the lower eyelids last of all localities attacked. Young women are most usually the subjects of chromidrosis. Treatment is to be directed against the general debility accompanying the affection. Dr. Camuset gives notes of the case of a young girl of feeble health, who presented the eruption in its typical form. She was cured by the use of tonics, etc.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, NOVEMBER 22, 1879.

EDITORIAL.

GRATUITOUS TREATMENT OF CLERGYMEN.

IT has long been etiquette among physicians, how long we do not know,—always, perhaps,—to treat clergymen without remuneration. In the opinion of the laity, a doctor's fee, no matter how small it may be, seems out of proportion to what he expends or gives for it. The line or two of hieroglyphics and the dozen words of advice are all-powerful for life or death, but they cost the doctor nothing at the time they are given, although the giver may have spent thousands of dollars on his education. A certain annual income is, then, necessary in order simply to pay the interest on what his knowledge has cost him. Moreover, we have always contended that the better the physician's education, the more valuable is his advice, just as the labor or the opinion of a master workman is worth more than that of his apprentice or half-developed journeyman. But while in the one case the laity see the logic of this argument and are willing to pay for it, concerning the highly-educated physician there is a spoken or tacit opinion that he demands too much. When danger has passed, the smallest fee is grudged, the animus being that of the old French couplet, which signifies that while he is needed the doctor is an angel, but when his bill is presented he is a—(the contrary).

In eighty cases out of one hundred, a doctor whose opinion is worth having not only earns his fee, but, in view of what he really gives for it, is underpaid. Like other human beings, he has his baker, his grocer, his butcher, his tailor. Like them, too, he has bills to pay. He may be no mathematician, but he has sufficient algebra to be aware that o will not pay for *x*. What wonder, then, that he sometimes feels himself an abused and unappreciated individual!

When he received his diploma, perhaps he took the Hippocratic oath which requires him to listen to the plea of the sick poor, and, if he have a human heart, he finds pleasure in healing their ills for the sake of that untold satisfaction which is the reward of relieving suffering. It is *his* method of giving in charity, and only he knows how much and how often he thus gives, and gives willingly. But when he is called upon to give gratuitously where there are larger means of payment than are represented by his own income, he involuntarily feels wronged, and wonders how the man of income equal to or larger than his own can accept much and give nothing. This is the position in which he is placed when called upon to attend many of our city clergymen and their families.

If the physician attends church,—and let us hope he does, —he assists in paying his minister's salary. If he marries, —and let us again hope he does, —he pays his minister a fee which five times exceeds what he would ask for granting the clergyman a similar amount of time. In case of death in his family, he perhaps would hardly feel comfortable unless he sent his minister a fee for his services at the funeral. Now, the *real* question arises, why should *he* not receive a reward for his services when the minister calls for them?

There is no kind of doubt that in this superannuated, unworthy custom of gratuitous medical treatment of *all* clergymen there exists a rank injustice. If the minister is poor, his family large, his salary small, who should be more ready than the large-hearted physician to give of his medical largess? But when the clergyman is getting three, four, or five thousand a year, there is no justice whatever in his being a eleemosynary institution.

FEES.

THE question of medical fees is one that occurs to most medical men at least twice a year, and seems never to reach an absolutely satisfactory settlement. It is plain that the poor cannot pay at a sufficient rate to support the doctor, and that the rich must make up the deficiency; but where and how is the line to be drawn? Arbitrarily the physician, in most cases, decides his rate for the individual patient, for only to a few of the topmost members of our profession is it given to have a fixed, invariable charge, which all who pay at all must pay or do without the services. In making out his bills, the physician, even if he have some schedule not altogether arbitrary, is forced very often to resort to shrewd guessing as to the pecuniary ability of his patient, and, with his best endeavors, does not always reach a just conclusion.

The Manchester (England) Medico-Ethical Association has adopted the rental of the patient's home as the basis of charging, dividing all recipients of medical services into four classes, the first where the rental is $50 to $125; the second, from $125 to $250; the third, from $250 to $500; the fourth, above $500. The charges for ordinary visits are—to the first class, 37 to 87 cents; to the second, 87 cents to $1.25; to the third, $1.25 to $1.87; to the fourth, $1.87 to $2.62. It also commends strongly the sending out of monthly accounts. The adoption of this latter procedure would, we believe, be a decided gain for the profession in this country; but, unfortunately, its introduction must come through the old established members of our guild, and it is just such men who need least such procedure, and who will be least apt to take the initiative.

As of old an angel at certain seasons descended into the Pool of Siloam and troubled its waters, so into the placid stream of the Obstetrical Society in this city does an angel—the female practitioner of medicine—at times descend and agitate things generally. In fact, when she dons her poke-bonnet and seizes her manuscript and specimens, there is consternation in the obstetrical ranks. To an outsider there is much reason for the perturbation of the venerable body, for is it not the carefully-perfected and cherished ladder by which the male obstetrician mounts aloft to professional reputation and success? his trumpet through which he blows the story of his power and triumphs? Can even motives of gallantry—powerful though with him they ever be—move him to surrender it up to the feminine champion, whose claim is so extensive that, if granted, he might be left without a round on which to stand? Still, the world moves, and perhaps some future Darwin may yet chronicle the result of the struggle, and from the "survival of the fittest" draw a new illustration of the "descent of man" and the ascent of woman.

WE are gratified to notice the introduction into this city of a desirable enterprise, not uncommon abroad, which provides for wealthy persons, in the quiet of a home, the important advantages of a hospital, such as a resident physician, experienced nurses, a prescribed dietary, etc., etc. This institution is open to the regular profession, and for either medical or surgical cases. It is especially adapted for private patients from without the city, who in hotels or boarding-houses are usually so badly cared for. The house is conducted by Dr. Livingston, of 260 South Sixteenth Street, who was for several years Assistant-Physician to the State Lunatic Asylum at Utica, New York. We trust this (to Philadelphia) novel project may have the support it eminently deserves.

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APPLICATION IN APHTHOUS STOMATITIS.—

℞ Pulv. sodii borati,
Pulv. acid. salicylici, āā ʒi;
Mellis, ℥iij.—M.

LEADING ARTICLES.

THE RECENT EPIDEMIC OF PLAGUE IN ASTRAKHAN.

A LEADING article in the *Philadelphia Medical Times* of March 1, upon the plague in Russia, described the progress of the epidemic up to that date, and alluded to the fact that medical commissioners had been sent from Germany, Austria, and England, charged with the duty of examining into the disease upon the spot and reporting the results of their investigations. The chairman of the German Commission, Professor Hirsch, of Berlin,—the great authority upon the plague,—has recently made a statement, in the form of a lecture on "The Plague Epidemic of the Year 1878–79 in Astrakhan," delivered before the Berlin Medical Society, and reported in the *Berliner Klinische Wochenschrift* and the *Medical Times and Gazette*, which may be read with profit as perhaps the best account of the late epidemic which has as yet appeared. It will be remembered that the late outbreak of plague had been predicted by Professor Hirsch in 1877, and, as he had made especial study of the disease, he was detailed, together with Drs. Küssner and Sommerbrodt, to proceed to Vetlianka, the centre of the outbreak. The Commission arrived at Vetlianka towards the end of February, and proceeded, with the aid of the Russian authorities, to investigate what remained at that time of the epidemic (which had almost expired), and to trace, so far as was possible, the course of the disease.

Astrakhan, the province in which Vetlianka is situated, forms a large steppe or treeless plain, traversed by the Volga, which runs between low clay banks. The climate is variable, with cold winters and hot summers. Cattle-breeding is carried on extensively, but fishing and salt-production are the two principal sources of industry. The general condition of the inhabitants is comfortable. The towns and villages seen by the Commission in their journey over the steppe were all remarkable for the excellent arrangement of the streets, which are large and well ventilated, and for the comfortable and well-arranged construction of the houses. It is true that the places for cleansing and salting fish were far from being in good hygienic condition, but this state of affairs had lasted for many years without having previously given rise to disease. The prevailing diseases of that district of the Volga are malaria, inflammatory attacks of the respiratory organs, rheumatism, syphilis, and scrofula. Of epidemic diseases observed during the last ten years, scarlet fever, typhoid fever, and cholera have been most conspicuous. The last outbreak of plague had occurred in 1807–8, and had probably been brought by pilgrims from Mecca. It had not been very severe.

The medical administration of the province appears to be very complicated and ineffective, the local surgeons being men of mean attainments, and superior army medical officers only being sent for in cases of emergency. The amount of red tape is such that the central government did not get any news of the epidemic until the worst was over.

The plague was confined to six places, the centre being Vetlianka,* where alone the disease existed with the character of an epidemic. On the whole, there were three hundred and fifty nine deaths from plague at Vetlianka during the whole period of the epidemic, which lasted from October 1, 1878, to January 4, 1879. As the population of the place is only about seventeen hundred and fifty individuals, this gives a mortality of twenty per cent. in the whole number. Of those attacked, eighty-two per cent. died. The total number of deaths from plague in the district is estimated at four hundred and fifty.

Unfortunately, the Commission arrived so late on the ground that no severe cases of plague were observed. Much of their information was derived from trustworthy and intelligent eye-witnesses. With regard to the nature of the disease, Professor Hirsch states that there can be no doubt about its nature: it was decidedly the ordinary Levantine bubonic plague. The lung-affection had not the character of pneumonia, but of pneumorrhagia; no complication with pneumonia or with bleeding from the lungs was observed. In a few cases only slight bronchitis seems to have been observed as a complication. As in all former plague epidemics, there were three forms to be distinguished, according to the degree of development of the disease. The first form was slight, partly without fever, a sort of ambulatory plague, where, without any other grave symptoms, a bubo was formed in the axillary, inguinal, or submaxillary glands, which soon suppurated or resolved, and where the whole process was terminated in that way. Cases of this form seem to have been more frequent especially in the beginning and towards the end of the epidemic. Of those, a few were seen by the Commission. But, secondly, there was a series of cases of a graver character, where buboes were formed after an illness of several days, and where the whole organism was deeply affected. Most of the buboes in those cases became purulent, and recovery was only exceptional. A third series of cases was observed in the form of the so-called *pestis siderans*, where no localization of the morbid process in the lymphatic system was formed at all, or the buboes were so small that they escaped the attention of the surgeons and the friends of the patients. Such cases proved fatal, without exception, in two or three days. No post-mortem examinations were made during the epidemic.

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* For a general view of the topography of the country, the sketch-map in the *Times* for March 1, 1879, may be consulted.

As regards the origin of the disease, Professor Hirsch says that it either originated spontaneously in Vetlianka, or was imported from another place; and in the latter case it must have been brought directly or indirectly from Persia or Mesopotamia, because in those countries only had the plague showed itself during the previous year. There is no reason whatever for the assumption of an autochthonic origin of the disease in the Volga districts. He believes, in fact, that the source of the plague epidemic in Vetlianka in 1878–9 was infected clothing which had found its way from Persia or Mesopotamia into Armenia, and possibly into some bazaar at Erzeroum or Kars, where it had lain unpacked. This clothing then probably fell into the hands of Cossacks as booty, and was sent home by them unopened to Vetlianka, which is a staritza or Cossack station, of which there are eighteen in Astrakhan. It is certain that Armenian booty did reach Vetlianka, and also that the infection of plague lingers long in clothing which has been worn by those sick of the disease.

This, it will be remembered, was the hypothesis which we offered in our leading article of March 1, to which reference has been made.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the hall of the College of Physicians, Philadelphia, October 8, 1879, Prof. Henry H. Smith, President of the Society, in the chair. Dr. Charles T. Hunter read a paper (see page 89) on "Hot Water as a Hæmostatic in Surgery," which received a vote of thanks from the Society.

Dr. John H. Packard said that he could add his testimony to what had been said as to the value of hot water as a hæmostatic in surgical operations, and would endorse it even to a greater degree than the lecturer had. In a recent attempt to remove a tumor from the antrum, of the nature of a polypus, which had grown principally outwards, so that it was covered with a mere shell of bone, he had adopted the hot water as a hæmostatic with perfect success, so that this usually bloody operation was performed without the profuse bleeding that was expected. When the floor of the antrum was exposed there was pretty free hemorrhage, but on applying a sponge wet with hot water directly to the surface the bleeding immediately ceased. It was also effective in checking the hemorrhage from the cut surface of the lips in the earlier stage of the operation. He had resorted to it in a number of instances with success. In the operation of tying the external iliac artery the continual welling up of blood is a constant source of embarrassment. Performing this operation not long ago, he had noticed that by applying sponges dipped in hot water the oozing was prevented and the wound was kept in a clean condition, which was very desirable in making the dissection. Only the last week, while performing an amputation of the leg, he had found it to accomplish fully all that Dr. Hunter had claimed for it.

Dr. M. O'Hara remarked that the temperature of the water recommended to be used for injection in uterine hemorrhage is from 118° to 120°, and therefore hotter than that named by the lecturer by nearly ten degrees. He also called attention to the manner of application of the agent in obstetrics, where it is thrown against the bleeding surface with some force and in considerable quantity. He inclined to the opinion that this manner of application by the douche might be more efficient than by sponges or fomentations, since in the latter case the heat is rapidly lost as soon as applied. When the use of the thermometer is inconvenient, the temperature of the water may readily be tested by the back of the hand. From experiments made at the Woman's Hospital of this city, it was ascertained that the highest temperature that could be borne in this way without pain corresponded usually with about 118° of Fahrenheit's scale.

Dr. Hunter replied that at the late meeting of the British Medical Association at Cork, the gentlemen attending the gynæcological section gave as the result of their experience that the temperature of the water should not be above 110°. He knew that it had been used hotter for the same purposes in this country, but he had arrived at his conclusions as to the proper temperature to be employed in surgery only after careful comparison, observation, and experiment.

In regard to the manner of application, he was in the habit of making a thick compress, large enough to cover the entire surface of the wound. This is made of towels, and after dipping in the water is applied to the entire surface simultaneously. He was confident that much less heat is lost in this way than by the stream of water delivered from the syringe or douche. He had tried both methods at the University and Pennsylvania Hospitals, and preferred the method recommended in the paper.

Dr. Charles B. Nancrede said that he had adopted this expedient in a number of cases during the last few months, with complete satisfaction. In a case of whitlow, where he had been called upon to remove the ungual phalanx, the parts were very vascular and bled freely. The application of ice did not check the hemorrhage, but the hot water stopped it instantly. In two cases of lymphadenoma of the neck that he had removed recently, requiring careful dissection, the hot water checked the bleeding so as greatly to facilitate the operation. He also referred to a case of partial amputation of the foot for old disease, where the parts were very vascular and congested, but the hot water prevented hemorrhage. In secondary hemorrhage it is also useful, and he communicated a case where there was a tendency to hemorrhage and bleeding, recurring for several days, in spite of ordinary styptics, but which was permanently checked by hot water.

Dr. W. R. D. Blackwood inquired if any member had seen injurious constitutional impressions from the use of hot water as a hæmostatic. The application must make a powerful impression upon the nerves of the part, and might increase the shock after surgical operations. He asked this question because, in a recent case of threatened post-partum hemorrhage occurring in a habitual flooder, he had used the hot injection as recommended at a previous meeting of this Society by Dr. Albert H. Smith, and he was certain that the shock which made its appearance within fifteen minutes after the injection was due solely to the hot water. The patient appeared to be in a state of serious collapse, but recovered by the liberal use of stimulants. The hemorrhage was checked, however, and the woman actually lost less blood than in an ordinary labor. He had also noticed in one of the medical journals that a practitioner in one of the Southern States had decided trouble in gynæcological practice after the hot-water injections.

Dr. Hunter stated that he had never seen any bad effects from it. In a recent case of exstrophy of the bladder, operated on by Dr. Levis, at the Pennsylvania Hospital, in which there was a very large wounded surface, the capillary bleeding was fully controlled by the hot water, and no bad results followed, but the child recovered very nicely from the effects of the operation, although prolonged etherization had been required.

Dr. Henry H. Smith called attention to the use of hot oil as an application to check hemorrhage in military surgery previous to the introduction of the ligature by Ambrose Paré. He inquired of the lecturer what was the physiological action of liquid or moist heat.

Dr. Hunter had recently seen a reference to this use of hot oil by Paré, in a paper by Thirsch. He had not been able, however, to find any satisfactory account of the physiological effects of the hot application in any of the journals. The only reference to the use of hot water as a hæmostatic he knew of was in *The Practitioner* for February, 1879, in a communication from Charles B. Keetley, F.R.C.S., Assistant-Surgeon to the West London Hospital.

Dr. W. H. Parish had used the hot water in gynæcological practice, in hemorrhage from the uterus or vagina, with the effect of promptly checking the bleeding. In regard to bad consequences, he had seen three cases of severe uterine colic from the use of hot-water injections,—just as severe as though cold water had been used. He had not thought that the hot water entered the uterus, but that colic occurred simply from the excess of heat, and the friction or impinging of the douche upon the cervix.

Dr. Hunter remarked that as the result of some experiments upon sensation he had found that he was able to take water as hot as 140° into his mouth, but not above this, without pain. He could hold his hand in water of 130°; the back of the hand is rather more sensitive, as observed by Dr. O'Hara, and as he had also found stated in Küss's Physiology.

Dr. George Hamilton said that the method proposed for the arrest of hemorrhage by means of hot applications was not only different from, but was apparently antagonistic to, the action of cold, hitherto so generally employed for this purpose. The lecture of this evening, novel, interesting, and important in its practical aspects, shows, in connection with other statements made during the discussion upon this subject, that this is not the case. More than forty years ago, while practising in the country, a nurse had spoken to him (Dr. Hamilton) of the successful application to the hypogastric region of a hot folded napkin, by order of the attending physician, for the arrest of uterine hemorrhage, when the ordinary measures had failed. Cold water, suddenly dashed upon the abdomen, in post-partum hemorrhage, is known to be one of the most effectual methods for arresting the discharge. The shock to the nervous system by this procedure is evident from the shivering or chill that at once ensues, and, as a sequence, diminished action of the whole vascular system. The *rationale*, when a very hot application is suddenly made, may be of the same character, for here, just as is seen in case of severe burns or scalding, chills or rigor may ensue, and here again a partial paralysis of the heart and vascular system occurs. Water of a high temperature, used for the suppression of hemorrhage in surgery,—to which object the lecturer has given his particular attention this evening,—or injected into the cavity of the uterus, acts, no doubt, as was stated in the lecture, locally, by producing coagulation, as well as by reflex action of the nervous system.

Dr. Nancrede attributed the hæmostatic effects of the application of hot water partly to the coagulation of fibrin by the action of heat, and partly to the stimulating influence upon the vaso-motor nerves.

Dr. Benjamin H. Lee inquired whether the year 1875 was regarded as the date of the introduction of hot water into obstetric practice.

Dr. Hunter replied that in the discussion at Cork, before referred to, it was so stated, he thought, by a gentleman named Kerr; but Dr. Stillwell, of San Francisco, states that three years before he saw Dr. Marion Sims throw hot water upon a raw surface to check bleeding.

Dr. Lee said that about twenty years ago a paper by a distinguished physician of New Orleans was published on the "Use of Hot Water as a Hæmostatic," in which he had personally felt much interest. He believed the paper could be found in the early transactions of the American Medical Association.

Dr. Henry H. Smith could not recall having seen such a paper in the transactions.

Dr. J. T. Eskridge explained the physiological action of the hot water through its action on the nervous system and as an irritant to the parts. He did not think it directly favored the coagulation of fibrin, for this will take place at, and is assisted by, any temperature below 160° and above the freezing-point, but a much higher temperature would prevent its coagulation.

Dr. William B. Atkinson said that he recalled the fact that in 1867, while he was assistant editor of the *Philadelphia Medical and Surgical Reporter*, a paper was presented by a Dr. Neville C. Read, of this city, in which he recommended the use of hot water as an agent for checking hemorrhage. The editor of the journal, the late Dr. S. W. Butler, refused to publish the paper, on the ground of its being impracticable and visionary.

Dr. Charles K. Mills said that the hæmostatic effect of the hot water is principally owing to its effect on the vaso-motor nerves. Two classes of cases occur in which there is general vaso-motor spasm: in one there is extreme pallor and coldness of the extremities, and in another set there is vaso-motor paresis, with passive congestion and sudden flooding of the parts by the blood. These can be treated by heat, electricity, stimulants, etc. In considering the local effects of the hot water it appears that the action is a direct one, and occurs independently of the vaso-motor centres. There is little doubt that there exists in the spinal cord a series of vaso-motor centres besides the well-known centre in the pons and the higher cerebral vascular centres. In the sudden application of hot water there is a powerful impression made upon the peripheral nerves, which is subsequently carried to the spinal cord, and may thus stimulate the vaso-motor centres into reflex action. In cases of hemorrhage due to vaso-motor paresis the good effects of the hot water may be explained in the same way.

Dr. O'Hara did not believe that the effect of the hot water could be explained altogether by nervous influence, because in that case it would be temporary, and the bleeding would return when the nerves resumed their functions. Coagulation must occur to stop the bleeding permanently.

Dr. J. L. Ludlow inquired whether the lecturer had observed anything like shock in his cases.

Dr. Hunter said that his first impression had been that the effect was a reflex one, through vaso-motor influence; he now regarded the hot water as acting more particularly as a local stimulant to the arterioles and the connective tissue in which the vessels lie. Undoubtedly the permanent occlusion of the vessels depends upon the formation of clots, although the heat is also capable of producing a profound nervous impression. He had often used the hot bath as a stimulant to the circulation, with good results. In a case of angina pectoris he had always succeeded in giving complete relief by a bath rapidly raised from 98° to 110°; immersion of about ten minutes entirely removing the oppression around the heart, and alleviating the other urgent symptoms.

In regard to the action of hot water upon the vaso-motor nerves, he said that Mr. Druitt* had recommended hot applications for excessive perspiration by sponging the surface with water at 130°, but for immersion the heat must be less; prolonged applications cause the surface to become red and congested.

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* On the Use of Hot Water as a Remedy in Profuse Perspiration, in the *Medical Times and Gazette*, March, 1865.

Upon a raw surface water of 110° will close the open mouths of the capillary vessels as the first action; but if continued for several minutes it would probably produce the contrary effect and lead to profuse hemorrhage, as he had observed that the prolonged action of hot water seems to produce a condition of turgidity of the vessels lying immediately beneath the surface.

A CASE OF CALCAREOUS DEGENERATION OF THE MEMBRANA TYMPANI.

Dr. Chas. L. Turnbull presented a patient of about 26 years of age for examination, with calcareous degeneration of membrana tympani. The symptoms consisted only in slight impairment of hearing; there was no history of any previous suppurative action or earache. Dr. Turnbull also exhibited a plate representing this condition, which had been colored for him, while in Vienna, by Dr. Adam Politzer, the author of most of the literature of this disorder.

The calcareous deposit takes place primarily in the middle lamina of the membrane, as in the case under discussion, the mucoid and epidermal layers generally escaping; although Politzer has seen cases where these other layers have participated in the change, and in some the deposit consisted of bony substances. The condition has been found co-existing with gout or rheumatism, and may accompany chalky deposits in the auricle and the fingers. No evidence of this kind could be obtained in the present case beyond the fact that the patient believed that he had been scrofulous in childhood.

A vote of thanks was unanimously passed by the Society to Dr. Hunter for his valuable paper, and to Dr. Turnbull for his interesting remarks. The Society then adjourned.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, SEPTEMBER 25, 1879.

THE PRESIDENT, DR. H. LENOX HODGE, in the chair.

On some of the causes determining the nature of the effusion in inflammation of the visceral pleura, with remarks upon the prophylactic treatment of empyema.

DR. FREDERICK P. HENRY read a paper with the above title (see page 81).

Dr. TYSON said one well-known cause of pleuritic effusion had not been referred to by Dr. Henry,—that is, a change in the composition of the blood, such as occurs in Bright's disease, where there has been a loss of albumen, and a consequent watery state results. Such blood is very prone to pass out through the vessels into serous cavities, as well as into the subcutaneous connective tissue.

Dr. O'HARA thought that the theory proposed was too mechanical to explain all the cases of pleural effusion. He had seen cases of empyema discoverable while the patient was walking about, without any previous notable symptoms of pain, fixity of the breathing apparatus, etc. He had seen, two years ago, notably one case of pleural effusion without apparently any other symptom in the patient than general debility and a gradual filling up of the left pleural sac. It became distended to a degree requiring removal, which, with the assistance of Dr. Willard, was done by the aspirator to the amount of five pints. In three weeks this, with tonics, enabled the patient to go to his work. About four weeks afterwards the same thing occurred on the right side, and three pints of fibrino-serous fluid were removed. The patient has remained well since. In this case there was no renal, cardiac, or liver trouble. He had slight cough, and from his debilitated condition tubercle was feared, but after-events showed this not to be the case. This case caused him to think that the portion of the nervous system presiding over secretion might, by a kind of paresis, cause an alteration in the quantity or quality of the ordinary fluid of the pleural sac. He had an idea that something similar might take place that you have from nerve-irritation, as in the exudation of herpes zoster.

Dr. MILLS said, in regard to the influence of the nervous system determining effusions, that it was known that in disseminated sclerosis, involving both brain and spinal cord, the patients have apoplectic attacks in which the lung symptoms become prominent; he had seen attacks like pneumonia in the first or beginning of the second stage, or like acute pleuritis, post-mortem examination revealing large effusions.

Dr. WILSON related a case illustrating the length of time that a pleural effusion may persist without becoming actually purulent. It was that of a young man who was taken ill with all the symptoms of an acute pleurisy. Shortly afterwards the signs of a large effusion of the left chest supervened. He was under treatment without operation, and in very poor health, for more than two years. At the end of this time, namely, in April, 1877, he came under Dr. W.'s care, and the fluid was evacuated by aspiration. It presented to the eye the appearance of a slightly-turbid serum, and under the microscope plates of cholesterin and leucocytes. The quantity was a trifle more than five pints. Eight months later, it had reaccumulated, and was again removed in the same manner, to the amount of a quart. The fluid at the second aspiration was of the same character as at the first,—sero-purulent. Since the second tapping there has been no reaccumulation.

It would be impossible to discuss fairly Dr. Henry's ingenious and elaborate paper at present, as it presented many points that were novel and not to be fully appreciated except after careful consideration. He thought that those who were accustomed to study pleural effusions from the clinical stand-point looked upon the character of the effusion as to some extent at least determined by the condition of the blood, or, at all events, by something in the nutrition of the individual. It was his impression that conditions of cachexia, or even diathetic states, influenced unfavorably the character of the product in serous inflammation; and he narrated two cases of pleurisy in which an early operation led to the evacuation of fetid pus, both of which occurred in persons belonging to highly consumptive families.

Dr. SEILER said he had recently made a post-mortem examination in which there was found in the right pleural cavity a large amount of creamy pus; the lung was collapsed, lying against the vertebræ. The patient had died of diarrhœa. No symptoms of lung-trouble had been detected during life, with the exception of a change in the voice. This he thought an evidence of a large amount of fluid existing in the pleural cavity for some time without giving rise to any symptoms.

Dr. ESKRIDGE said, that the general circulation is influenced by inspiration and expiration, there can be no doubt; but that the pulmonic or lesser circulation is influenced by either, exclusive of the chemical change effected by these phenomena, he doubted.

The rapidity of the general venous circulation is increased during inspiration, because there is an effort to establish a vacuum in the thorax, towards which the venous blood is flowing. The rapidity of the general arterial circulation at the same time is decreased (or, what is the same thing, the pressure in the aorta is lessened), because these vessels carry the blood from the cavity of the thorax, in which, by the inspiratory effort, a vacuum is attempted.

As expiration upon the general circulation has just the opposite effect to inspiration, the rapidity of the general venous circulation is decreased and the arterial increased during expiration.

Since the general circulation is mainly outside of the cavity of the chest, and has its rapidity affected by respiration on account of certain mechanical phenomena which take place during this process, as the blood either flows to or from this cavity, he could not see how the mechanical movements of respiration could affect a circulation like the pulmonic, which is wholly within the chest.

We know that the blood well supplied with oxygen will circulate more freely than blood loaded with carbonic acid gas. In the healthy adult, from eighteen to twenty cubic inches of air enter and leave the lungs during every respiratory act. During the pain of pleurisy the chest-walls are not allowed to expand so freely as in health; less air, therefore, enters and leaves the chest during one respiration, the tissues soon call for oxygen, the blood is loaded with carbonic acid gas and effete matter, the number of respirations to make up for the deficiency of oxygen is increased; but, as each inspiration is now necessarily short, the blood is not sufficiently oxygenated nor relieved of carbonic acid gas to prevent the latter from increasing the morbid action already going on in the congested and inflamed pleura.

Dr. E. did not believe the mechanical movements of respiration directly affect the rapidity of the pulmonic circulation.

Dr. NANCREDE said in regard to duration being a cause of the fluid becoming purulent, he had had charge of a case in which there had been severe traumatic injury of the chest-wall, resulting in considerable general emphysema and collapse of the lung. The symptoms of the consequent pleuritis had been very violent. The fluid became encysted, and remained stationary for four months. In consultation with Dr. Starr, it was determined to draw off a small amount of the fluid with a hypodermic syringe for diagnostic purposes, when the exudation was found to be clear and limpid. No further operation was done, and the man recovered.

Dr. FORMAD suggested the examination of pleuritic effusions for albumen, believing that the estimation of the quantity of the latter would determine the prognosis of the serous effusions. He had several times examined hydrocephalic effusions tapped by Dr. Detmold, of New York, without finding any trace of albumen; and also, in a similar case, operated upon by Dr. Pepper, at the University Hospital, he found only a trace of albumen. Having examined also a number of fluids tapped from cases of pleuritic effusions, ascites, hydroceles, etc., he ascertained that, while some of them were loaded with albumen, in most of the fluids there was only a small amount, and in a few no trace even of albumen could be detected. Two cases of pleuritic effusion, in which a large quantity of albumen was present, he knew to have terminated fatally. It is a known fact that the quantity of albumen in exudations is always in direct proportion to the intensity of the inflammation, and that exudations (sometimes in large amount) in congestive conditions contain little or no albumen, albumen being dependent upon the number of migrated cellular elements, which are few in the latter condition. The albumen in cystic fluids is dependent upon another source, viz., that of a mucoid degeneration of tissues.

Dr. TYSON thought Dr. Formad's statement in the main correct, but it went too far. That albumen is invariably present in inflammatory effusions is undoubtedly correct, and that it is absent in many non-inflammatory effusions is also correct; but non-inflammatory effusions also occur which contain a considerable proportion of albumen. He was aware that the view of Dr. Formad was to be found in some of the text-books, but thus expressed it is erroneous.

Dr. HODGE calls attention to the fact that in ovarian dropsy we have a fluid in which the amount of albumen is very abundant without there having been any symptoms of inflammation of the cyst.

Dr. HENRY remarked, in conclusion, that his paper had reference solely to inflammatory effusions. It was evident that there was some misunderstanding in the discussion, although those who had heard the whole paper would probably recall the fact that nothing whatever had been said in regard to non-inflammatory effusions. Dr. Henry now regretted that, for the sake of brevity, he had caused only a portion of the title of his paper to be printed on the notices of the meeting. It was announced as a paper on "Some of the Causes Determining the Nature of Pleuritic Effusions," which would, of course, include hydrothorax.

The discussion had wandered very wide of the point. The proper method of refuting the views advanced was to show that the experiments of Ludwig upon the pulmonary circulation and those of Cohnheim upon embolic processes are unreliable, or to point out some flaw in the arguments, which are entirely based upon these experiments. This had not even been attempted. Exceptional cases of pleurisy and empyema, attended with remarkably few symptoms, cases which are now readily recalled to the memory on account of their exceptional nature, are brought forward by way of argument, but are hardly entitled to be so received.

In reply to both Dr. O'Hara and Dr. Wilson, Dr. Henry would say that, while giving prominence to one set of causes determining the nature of pleuritic effusions, he had by no means omitted to refer to constitutional conditions as concerned in the conversion of a sero-fibrinous into a purulent effusion. "Pyæmia, septicæmia, and the infectious diseases" are distinctly mentioned as predisposing to such a change, and it will surely be recalled by some present, that one case, illustrating the effect of constitutional causes upon the nature of the effusion, is referred to at some length. Finally, in reply to the remarks of Dr. Eskridge, who so emphatically dissents from the results of Ludwig's experiments, Dr. Henry would say that a mere statement of unbelief in the experiments of so distinguished a physiologist is not sufficient to refute them.

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SUPPOSITORIES IN VAGINISMUS.—

℞ Ol. theobromæ, ʒi;
Potassii bromidi, gr. x;
Ext. belladonnæ, gr. vi;
Acid. thymici, gr. i.—M.
Fiat in suppositor. no. I.
To be placed in the vagina every evening.

MISCELLANY.

PROFESSOR JAMES AITKEN MEIGS.—James Aitken Meigs, M.D., Professor of Physiology and the Institutes of Medicine in the Jefferson Medical College, died at his residence in this city on November 9, 1879, in the 51st year of his age. He had been ill with what appeared to be a severe malarial attack for a few days, but his death was preceded by evidences of blood-poisoning. No post-mortem examination was permitted; the immediate cause of death must therefore remain a subject for conjecture, heart-clot, portal phlebitis, and discharge of hepatic abscess into the vena cava having each been suggested.

Professor Meigs was born in this city in 1829, of English and Scotch ancestry. He graduated in Jefferson Medical College in March, 1851. He then began practice in this city, where he since pursued it until his death. For several years he acted as assistant to the Professor of Physiology in the Pennsylvania College, and engaged in the examination and preparation of students for graduation. In September, 1854, he was appointed Professor of Climatology and Physiology at the Franklin Institute, holding the position for eight years, during which time he also lectured frequently on physiological and ethnological subjects at the different mechanics' institutes in Philadelphia, and before various literary associations in neighboring cities.

In 1857 he accepted the chair of Institutes of Medicine in the Philadelphia College of Medicine, and occupied it until April, 1859, when he was transferred to the Professorship of Institutes in the medical department of the Pennsylvania College, previously held by Professor F. G. Smith, for whom the chair was originally created by the trustees of the parent institution at Gettysburg. In November, 1859, while still connected with the Pennsylvania College, he was elected Consulting Physician and Clinical Lecturer to the Philadelphia Hospital. On the breaking out of the civil war, in 1861, he, in company with his colleagues, resigned from the Pennsylvania College. In June, 1868, he was elected by the Board of Trustees of Jefferson Medical College Professor of the Institutes of Medicine and Medical Jurisprudence. In August of the same year the Board of Managers of the Pennsylvania Hospital chose him, without the usual canvass, one of the physicians of that institution. These two positions he still held until his death.

He was a member of the Philadelphia County Medical Society, of which he was elected Recording Secretary in 1857, and a year later Corresponding Secretary, to which office he was twice re-elected, becoming in 1867, moreover, one of the Vice-Presidents, and in 1871 the President. He was a member of a number of American medical and scientific associations and of the Société d'Anthropologie de Paris, the Ethnological and Anthropological Societies of London, the Societas Medicorum Svecarræ, of Stockholm, and the International Congress of Prehistoric Archæology.

While a student of medicine, and for some time after his graduation, Professor Meigs contributed to the *Medical Examiner* clinical reports of cases treated at the Jefferson College and the Pennsylvania Hospital, the discussions of the Philadelphia County Society, and papers on the mortuary statistics of Philadelphia. He wrote and published many articles of considerable merit, among them being one on the physiology of stammering and its treatment by mechanical means. In 1856 he prepared an appendix to the first American edition of Carpenter's work on the microscope. The following year, being Chairman of the Standing Committee on Anthropology, he arranged and classified the extensive collection of human crania in the Academy of Natural Sciences, and prepared a systematic catalogue of the collection, which was published by the Academy.

He also contributed during 1857 to Nott and Gliddon's "Indigenous Races of the Earth" an essay on the cranial characteristics of the races of men, presenting a general survey of human skulls in their ethnical relation, and edited an American edition of Kirke's "Manual of Physiology." To the Proceedings of the Academy of Natural Sciences, the Reports of the Smithsonian Institution, and other like publications, he contributed at various times many original and interesting articles on craniology. He likewise contributed numerous reviews on a great variety of physiological, medical, and scientific subjects to the *Medical Examiner*, the *North American Medico-Chirurgical Review*, and the *American Journal of the Medical Sciences*, and prepared for Professor Gross's "American Medical Biography" the memoir of Dr. Randolph.

At the last Commencement Professor Meigs delivered the valedictory address to the graduating class of the Jefferson College. It was in the form of an epic poem, celebrating the nuptials of the Young Physician and Fair Hygeia.

While librarian to the Academy of Natural Sciences, Dr. Meigs distinguished himself by his zeal and great industry in ethnological studies, especially in regard to the cranial characteristics of different races, in which field he appears to have made his only original contributions to science. The papers which he then published attracted the attention of foreign observers, and established his continental reputation and gave him honorary membership in a number of foreign societies. In his lectures at the Pennsylvania College he repeated all of Brown-Séquard's physiological experiments and many of those of Bernard, whom he greatly admired and held in great esteem. Since that time he had abandoned vivisection, preferring to illustrate his lectures by means of the camera and diagrams.

In the lecture-room Professor Meigs appeared to his best advantage. Deeply interested in his subject himself, he spared no pains to make his lectures attractive to his students by careful preparation and abundant illustration. His use of the stereopticon as a means of explaining his subject was extremely fortunate. His lectures delivered a year ago, upon the eye and the ear, will long be remembered by those who heard them for their faithful representation of the latest contributions to the anatomy and physiology of these organs: they probably have never been excelled in this country. This winter he began his lectures with the subject of "Reproduction," and it gave promise of being an unusually brilliant course. When lecturing he was nervous and animated; he made no effort at oratorical display, but kept ever before him the idea simply of communicating information; his style was therefore plain and unpretending, though not unpolished; he possessed a free flow of language, but was cautious in expressing his views upon facts which he considered not fully established. Always affable and sympathetic in his manner, naturally kind and obliging in his disposition, ever ready to answer questions and freely communicate the results of his laborious studies, he was not only regarded as a friend by the students, but possessed the confidence and regard of his colleagues and the profession and community at large.

In his thirty years' practice he was very successful, having devoted himself to it very closely; indeed, for a number of years he scarcely permitted himself any relaxation whatever. At one time he attended nearly two hundred and sixty obstetrical cases in the course of twelve months. The cause of science has suffered from these engrossing cares, which he never could be prevailed upon to resign. His bodily health, like his mind, was unusually vigorous, but it yielded at last with such suddenness as to make it evident that his constitution had been undermined by nights devoted to study and days consumed by constant toil.

The resolutions adopted by various societies upon the announcement of the death of Professor Meigs attest the high appreciation in which he was universally held as a man of science, as a successful teacher, and as a cherished friend. F. W.

THE following preambles and resolutions were adopted by the Philadelphia County Medical Society on the announcement of the death of Prof. J. A. Meigs:

WHEREAS, The Philadelphia County Medical Society has lost, by the death of Dr. John Aitken Meigs, an old and highly-valued member and ex-president of the Society, who has been taken suddenly away from his career of usefulness; and

WHEREAS, We have ever recognized in him one who, from his first entrance upon the field of medical science, devoted his time and talents, with exceptional zeal and industry, to the acquisition of knowledge, of whatever kind and from whatever source attainable, that could in any degree prepare him for a more perfect and conscientious discharge of the duties of a most responsible profession; and

WHEREAS, The fulfilment of his exalted aims has been signally manifested in the success of his earlier and later efforts in behalf of rational and scientific medicine, establishing for himself, as he did by devotion to the investigation and solution of intricate questions pertaining to medicine, a reputation not only coextensive with our own, but that has extended to foreign lands: therefore,

Resolved, That it is eminently proper that this Society should, and hereby does, express its sense of the loss sustained in the sudden death of one who, with talent of no ordinary character and acquirements that only a few possess, was yet so simple in manner and conversation, so unassuming, affable, and frank in deportment, as to attract and interest all with whom he came in contact.

Resolved, That a copy of these preambles and resolutions be transmitted to the aged and bereft parent of the deceased, and that they be published in the medical and in the daily papers.

CHLORIDE OF LIME, in the proportion of one ounce to a wine-quart of water, is said to be very useful for cleansing dirty bottles. They should be filled with the solution and allowed to stand for a day or two. The same solution may be used repeatedly.

NOTES AND QUERIES.

SPARTANBURG, S.C., November 3, 1879.

MR. EDITOR,—In all popular belief there is very frequently some foundation of truth. As an evidence of this I will relate a fact antedating the use of "Ingluin." Over twenty years ago I attended a patient with a bilious attack; the nausea and vomiting were incessant for days, and though checked at times, yet could not be subdued by my remedies. She lived many miles from me. Upon one of my usual visits, I found her bright and entirely relieved. Hoping that my medicines had at last proved effectual, you may guess my surprise and disgust when I was told that my prescriptions had not been used for twelve hours; a neighboring female had visited her, dosed her with "gizzard-tea," and cured her! Investigating the subject, I found that the country-people were in the habit of saving the poultry's gizzards, divesting them of the inner membranes, which were then hung up to dry. Whenever a person was attacked with vomiting, especially during pregnancy, this membrane was pulverized and given in tea. The rural population have an abiding faith in its virtues. This was recalled to my memory by the now general use of "Ingluin."

Respectfully yours,
L. C. KENNEDY.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 1 TO NOVEMBER 15, 1879.

SUTHERLAND, CHARLES, COLONEL AND SURGEON.—Having reported at Division Headquarters as Medical Director of the Division, is assigned to duty at the Presidio of San Francisco, Cal., from this date. S. O. 134, Division of the Pacific and Department of California, October 24, 1879.

KING, WM. S., LIEUTENANT-COLONEL AND SURGEON.—The extension of his sick-leave of absence granted him March 6, 1879, from A. G. O., is further extended six months on account of sickness. S. O. 254, A. G. O., November 8, 1879.

IRWIN, B. J. D., MAJOR AND SURGEON.—Having reported for duty at these Headquarters, he is assigned to duty at Fort Meade, Dakota T. S. O. 116, Department of Dakota, October 21, 1879.

WOLVERTON, W. D., MAJOR AND SURGEON.—Assigned to duty at Fort A. Lincoln, Dakota T. S. O. 115, Department of Dakota, October 18, 1879.

GIBSON, J. R., MAJOR AND SURGEON.—Having reported at these Headquarters, to proceed to Fort McHenry, Md., and report to the Commanding Officer for duty. S. O. 192, Department of the East, October 28, 1879.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence on Surgeon's certificate of disability granted him in S. O. 214, October 27, 1879, from Headquarters Department of the Missouri, is extended two months on Surgeon's certificate of disability. S. O. 255, A. G. O., November 11, 1879.

MEACHAM, FRANK, CAPTAIN AND ASSISTANT-SURGEON, Fort Brown, Tex.—Granted leave of absence for one month. S. O. 236, Department of Texas, November 8, 1879.

CALDWELL, D. G., CAPTAIN AND ASSISTANT-SURGEON.—Upon withdrawal of troops from Fort Independence, to report to Commanding Officer, Fort Warren, Mass., for duty as Post-Surgeon. S. O. 165, Department of the East, October 20, 1879.

MUNN, C. E., CAPTAIN AND ASSISTANT-SURGEON.—To take post at Fort Hays, Kans., and, after reporting there, to proceed to Fort Garland, Col., and report to Colonel McKenzie, Fourth Cavalry, for duty with the column now organizing there. S. O. 217, Department of the Missouri, October 30, 1879.

CARVALLO, C., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to Col. Albert G. Brackett, Third Cavalry, commanding troops at Rawlins, Wyo. T., for duty with his command. S. O. 102, Department of the Platte, November 10, 1879.

ELBREY, F. W., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the South, and to report in person to the Commanding General, Department of the Missouri, for assignment to duty. S. O. 254, C. S., A. G. O.

HALL, J. D., CAPTAIN AND ASSISTANT-SURGEON, Fort Concho, Tex.—Granted leave of absence for one month on account of sickness. S. O. 221, Department of Texas, October 20, 1879.

HAVARD, V., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month from 25th instant, with permission to apply for one month's extension, provided he furnishes satisfactory medical attendance to the command at Fort Johnston, N. C., at his own expense. S. O. 168, Department of the South, November 10, 1879.

COMEGYS, E. T., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned, temporarily, to duty as Post-Surgeon at Fort Duncan, Tex. S. O. 231, Department of Texas, November 3, 1879.

KILBOURNE, H. S., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty as Post-Surgeon at Fort Porter, N.Y. S. O. 189, Department of the East, October 24, 1879.

HALL, WILLIAM R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Upon the termination of his services at Camp Winfield Scott, Wyo. T., to proceed to and take station at Fort Cœur d'Alène, Idaho. S. O. 142, Department of the Columbia, October 10, 1879.

PORTER, J. Y., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for five months. S. O. 254, C. S., A. G. O.

APPEL, D. M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Stanton, and assigned to duty at Fort Bayard, N. Mex., as Post-Surgeon. S. O. 109, District of New Mexico, October 31, 1879.

SHUFELDT, R. M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Laramie, and assigned to duty as Post-Surgeon at Fort Fetterman, Wyo. T. S. O. 98, Department of the Platte, October 29, 1879.

APPEL, A. H., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assignment to duty at Fort Bennett revoked, and to repair to Fort Pembina, Dakota T., and report to the Commanding Officer for duty as Post-Surgeon. S. O. 118, Department of Dakota, October 27, 1879.

RICHARD, CHARLES, FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Buford, Dakota T., and to report to Commanding Officer, Fort Snelling, Minn., for duty at that post. S. O. 124, Department of Dakota, November 2, 1879.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, DECEMBER 6, 1879.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON "PROGRESSIVE PARALYSIS OF THE INSANE."

Delivered at the Good Samaritan Hospital

BY JAMES T. WHITTAKER, M.D.,

Professor of Theory and Practice in the Medical College of Ohio.

Reported by A. H. Kelch.

GENTLEMEN,—I shall give you an opportunity in the observation of this case such as is not often afforded in student life. Before we have the history read, I will endeavor to bring out the most striking points by a few questions.

"How long have you been sick?"

"Six weeks."

"What was the cause of your illness?"

"I was robbed of a lot of money."

"How much?"

"A half-million dollars."

"Where did that occur?"

"On Eighth Street."

"What were you doing there?"

"Working at my trade."

"What is your trade?"

"I am a brick-builder and contractor."

"Had you other property besides the half-million dollars?"

"Yes; I own a house in Clifton."

"How much is it worth?"

"One hundred and twenty thousand dollars. The furniture is worth sixty thousand dollars."

"Had you any money besides this?"

"Yes."

"How is your money chiefly invested?"

"In real estate."

"Had you any bonds?"

"Yes, ten thousand dollars in bonds."

"Why did you come to the hospital?"

"Because I did not feel like working; I was troubled over the loss of my money, and lost my memory somewhat; my mind was not right."

"Have you any difficulty in smelling?"

"No."

"Any difficulty in talking?"

"No."

"Can you walk?"

"Yes."

"Then why do you prefer to lie in bed?"

"I don't."

"Let us see you stand up. Shut your eyes. Now stand on one foot. Shut your eyes again. Walk a little for us. Now show us your tongue."

Notice here, gentlemen, the staggering gait, the twitching of the tongue and of the upper lip. Notice another thing. This patient is almost entirely indifferent to our examination of him; he is quite apathetic, and apparently unconscious of your observation and my remarks. He is absorbed in his own thoughts and fancies, and regards us only in brief reply to direct questions.

Dr. Kelsey, the house physician, will now read to us the history of the case.

Antecedent History.—John A. Keppe, aged 42, native of Ireland, present abode Cincinnati, occupation contracting bricklayer, constitution and general health good; father and mother dead. Two brothers and two sisters are living, and are engaged in active occupations. No hereditary predispositions. No previous disease or injury. Habits and mode of life regular, though about four years since was somewhat addicted to intoxication. Hygienic surroundings fair, though in his business he has been much exposed to the sun's rays. There is no specific history.

History of the Present Attack.—Supposed exciting cause, the loss of a half-million dollars. Date of seizure, about September 1, 1879. The first symptom which attracted the attention of the patient's friends was an irritability of temper. The patient himself states that at this time his memory for recent occurrences began to be impaired.

Present Condition.—He seems a man of good health and physique. His vegetative functions are all normal. He does not complain of either headache or vertigo. There are slight tremulous movements on the part of the muscles of the tongue and lips. Friends state that for the past two weeks there has been a marked alteration in the tone of his voice; it has assumed a nasal twang. He has the "delirium of grandeur" well marked. His delusions are to the effect that he lives in an elegant suburban house, the cost of which was $120,000; he also states that he has a contract for the erection of sixteen brick houses, which will require four millions of brick. He is alternately in a state of depression and exaltation. When requested to take a turn up and down the ward he presents a singular appearance. His gait is quite peculiar. He walks somewhat *à la militaire*, save that instead of depressing the toes, he comes down on the heel with considerable force. His countenance is rather vacant and indifferent during the stage of depression, but full of animation during the period of exaltation. His appetite is good, his bowels are regular. The pulse is 96, temperature 98½°, respirations 20. He spends the day in bed, for the most part contentedly. He complains of nothing, and sleeps well at night.

Gentlemen, if you have ever seen a case of this kind before, you recognize it at once from the conversation of the patient, and, if not from the conversation, from the history. I fancy that many of you have not seen a case of this kind, for it is not strictly a hospital case. His fixed delusions will soon remove him to Longview or some similar institution. But if you should see him there months or years hence you could not make a diagnosis so easily as now. Our patient suffers from a disease which in its first stages can be mistaken for no other, and later, in the general wreck to follow, you will have difficulty in differential diagnosis. We have to deal with a disease known in every land and language as "progressive paralysis of the insane."

Here is a man in apparently good health; able to walk up and down the floor with but a slight deviation in his gait; giving tolerably fair answers to questions, but cherishing delusions. In his delusions there is nothing of the craft or cunning of many insane patients. He is for the most part simple and self-satisfied. He may become excited, but his excitement is only momentary and transitory. If you notice him closely while talking, you may see a little twitching of the muscles about his mouth. Now we are able to state, from this short observation, even without the history if we choose, not only the diagnosis, but the prognosis; to disclose the pathology of this affection; to speak intelligently of his past and future history.

The first thing that attracted the attention of his friends was the change in his disposition. He became irritable and morose. This irritability of mind and temper, in a great number of instances, would mean nothing at all, for how few men, especially in this walk of life, are gifted with that philosophy which lifts them above the petty annoyances of life! But these individuals are sometimes persons of the happiest dispositions, and gradually or suddenly they change. Then this sign is of more value. Such an individual begins to grow dissatisfied with every relation in life. But this condition does not last long; an absent cheerfulness is soon to follow; the patient becomes sanguine and buoyant; he makes contracts on a large scale, and begins to estimate himself of the greatest importance in the general economy of the universe. Our patient acknowledges himself his loss of memory,—a confession quite unusual. Most patients resent such imputations with indignation.

There is one factor of especial importance in relation to the cause of this affection that you have heard stated in his history, and it is of so much importance that we must stop to emphasize it now. He was, four or five years ago, addicted to the use of alcohol. Alcoholism precedes and causes this affection in the vast majority of cases. You will find this fact stated universally in medical works that discuss the disease at all. Some idea of the part that alcoholism plays in its causation may be derived from the statement that of one hundred cases of this disease twelve will be due to accident, seven to sunstroke or exposure to great heat, and all the rest of the cases, with the exception of one or two from mental emotion, will be due to alcoholic drink.

What makes this disease so intensely interesting, aside from its singular train of symptoms, is the fact that it is universal. There is not a fibre in the whole nervous system that is spared from its attack, not a fibre of the nervous tissue of the whole body that is exempt from the disease. The brain, the spinal cord, and all the nerves which issue from them, are sooner or later involved. They all suffer a lack of nutrition. There is a disease of the skeleton that is characterized by a lack of nutrition in the whole osseous system. All the bones become soft and pliable, and afterwards fixed in abnormal positions. This disease is rickets. There is another form of disease of all the bones of a somewhat similar nature, known as osteomalacia. Now, this disease is very like to these, but the defective nutrition concerns not the bones, but the nerves,—all the nervous system.

The most pathognomonic symptom of this disease is not this strange delusion of exaltation, but the tremor of the lip and tongue. Notice again, now, when our patient protrudes his tongue or is about to speak, the tremulousness of the lip. It is as if the patient were attempting to control or conceal his emotions, or as if, as a distinguished alienist says, he is about to burst into a flood of tears. The associated tremor of the tongue causes difficulty of speech; the patient stammers and stutters, or has rather that thickness of speech that is so characteristic of drunkenness. It is not aphasia; it is simply an ataxic symptom. It means loss of co-ordination of the muscles of the tongue. And as the disease advances another graver symptom occurs, viz., difficulty of deglutition. Because the first act in deglutition is accomplished wholly by the tongue, so, on account of the lack of co-ordination in the muscles of the tongue, dysphagia must finally result. Patients have been choked to death by it. There have been cases in which the dysphagia was the most marked symptom, and for a time almost the only symptom, of the disease. An instance is related where an attendant was feeding a paralytic patient in an asylum with pudding from a spoon, when in the course of the meal an epileptic patient near by fell in a fit. While the attendant went to help the epileptic, the paralytic crammed the whole pudding down his throat and choked himself to death. The disturbance of the disposition; the tremor of the tongue; the trembling of the lip and cheeks; the difficulty of speech and deglutition, — this is the usual order of sequence in the symptomatology of this disease.

But sometimes the family and friends of the patient do not especially notice or endure his eccentricities, and the patient is brought to the physician to be treated for his very singular gait. Now, there are two distinct forms or peculiarities of gait dependent upon the seat of the commencement of the disease. In one form the patient has that peculiar high-stepping gait that is known as the tabetic gait, and this is a sign that the disease commenced in the spinal column. The lesions may be profound in the cord before the cerebrum suffers at all. In the other form, in which the disease begins in the cerebrum, the individual does not lift his feet so high from the ground; he simply shuffles along. The gait is different from any other form of paralysis. In this form of the disease the patient can walk or stand even with his eyes shut, and he can stand upon one foot only with his eyes shut. This he cannot do in lesions of the cord. But wherever it shall have commenced, sooner or later it extends to every nerve in the body, — the nerve-trunks that carry out the nerve-force, the nerve-filaments that reach into the muscles. In profound cases every nerve is affected, even to the sphincters, and the fæces and urine pass away involuntarily and, in the worst cases, unconsciously.

So a singular train of symptoms is produced in this disease; but the most singular is this delusion of exaltation. Here is a poor laboring-man who is happy in the belief that he is the possessor of half a million of dollars. He dwells upon it with the intensity which the old French writers describe as the *monomanie des grandeurs*. Then soon after follows this most significant feature, the tremor of the lip and the tongue, which are such characteristic symptoms as to be, in this association, absolutely pathognomonic.

We owe to a French physician the first distinct recognition and description of this disease, and to a French physician its first baptism with a distinct name. It was in 1822 that progressive paralysis was first seen as such by Bayle, and ten years later its constant association with insanity was pointed out by Delaye. But because the great alienist physician, Calmeil, wrote the first monograph about it in 1826, and published a chapter on it in the *Dictionnaire de Médecine*, he is generally regarded as its discoverer. But Calmeil was only the Americus and Bayle the real Columbus in this hitherto unknown world. For years the French physicians had sole possession of the whole territory. Parchappe, Foville, Baillarger, Lunier, Moreau Billod, Brierre de Boismont, Sandras, Guislain,— these are the names identified with the disease many years before it became property common to the scientific world. For graphic descriptions of this curious disease we must still turn to the medicine of France. Now no text-book on psychology is complete without a chapter upon progressive paralysis of the insane.

No disease in the nosology of psychic affections has of late received so much study. We know now all its symptoms, its causes, its duration, its inevitable end.

Let us return again to this delirium of exaltation. It manifests itself at times in the most singular ways. If you talk to some of the patients you will find that there is no limit to their possessions and powers. They own the universe, share the dominion of it with the Almighty,—if they are not that personage himself,—and control all the affairs of our petty earth. Some two years ago I had a patient who thought he had invented a machine that he could place upon the top of our Mechanics' Institute and from thence regulate the movements of the planets. It was made, he always said, of "oiled walnut and steel wheels," but that was all he could tell of its construction. He was maniacal at times, and, after having tried on one occasion to throw his father out of the window, he had to be sent to the asylum. A few weeks ago he died paralyzed in every limb and sense. But some of these patients, it must never be forgotten, are profoundly melancholy throughout.

When the pathologist comes to look at the changes that have taken place, he sees the wreck of atrophy. When the dura mater is exposed it is found thickened in places, and opaque. In the attempt to detach it from the brain it sticks, and masses of the brain-tissue are torn away with it. Nerve-cells are shrivelled and fibres wasted away everywhere in the brain and cord. These are the characteristic nutritive changes that have taken place in gross. There is increase in pigment cells, hyperplastic connective tissue, strangulated nerve-cells, unipolar or apolar; there is absence of nerve-cells; and the vacuoles left in the brain and cord look on section cribriform, like a piece of Swiss cheese. Similar changes are observed in all the nervous tissue. The disease, in the vast majority of cases, beginning in the cord, we look for and find here the first and most pronounced lesions. The facial and the hypoglossal, the first affected nerves, arise, close together, in the medulla,—the upper part of the spinal cord. It is here that the disease begins, and hence is the tremor of the lip and tongue. These patients are nearly always in a condition of comfort at first. They are contented and happy, especially in the cases which are characterized by exaltation. There is, indeed, such *bien-être* that these patients sometimes become obese. But the cases of melancholy always become reduced, not on account of the melancholy, but because of the confinement it compels. You cannot drive a melancholic patient from his room, his corner, or his bed.

The prognosis in these cases is ultimate, inevitable death. The disease may hold itself in abeyance for months or years, but at any time may break out anew. The longest recorded duration is eight years, but from the first notice of symptoms three years is the average time. The patient, however, may not live three months. Our patient who has just left us will not live very long, because he will not leave his bed. Gradually the paralysis will extend, and if he does not die of the direct effect of the paralysis, he must succumb to pyæmia or amyloid change, from the bed-sores which must sooner or later follow. How shall we say how long a patient thus affected may live? You will hardly be prepared to believe that the thermometer offers the best evidence of the progress and the future of the disease. We do not notice any very great change in the thermometric record; from day to day it is about the same; but we do notice a difference every day in the morning and evening temperatures, and it is upon the amount of this difference rather than upon any great or continuous elevations that we base our conclusions for the future. So we do not make the prognosis unfavorable on the descent or ascent of the curve so long as it does not ascend or descend more than one degree, but a difference of two degrees and more is a most unfavorable sign. The thermometric range as taken in this case shows an evening elevation to 100° and a morning record of 99°: so the difference is not dangerous. But the confinement to bed is here the dangerous factor.

We have had now the opportunity of seeing this disease almost in its inception. If you would study it further along you must go out to the asylum. They always have there two or three cases on hand, and they are brought out and paraded before visitors on account of the extravagant delusions which are such entertaining features of the disease. But you will never forget that this symptom is not pathognomonic of the disease. Many cases do not show it at all, and other kinds of insanity show it not unfrequently. It is the tremor of the lip and the tongue in connection with derangement of the mind which are, and remain, the pathognomonic features, because they reveal the lesions in the substance of the cord.

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CHASSAIGNAC, the inventor of the *écraseur* and the drainage-tube, an excellent surgeon, who, however, failed to obtain due recognition of his merit, died recently in Paris at the age of seventy-four.

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGICAL ACTION OF APOMORPHIÆ HYDROCHLORAS.

BY EDWARD T. REICHERT, M.D.,

Demonstrator of Experimental Therapeutics, University of Pennsylvania.

Abstract from Inaugural Thesis, March, 1879.

I HAVE fully investigated the general action of apomorphia upon dogs, cats, rabbits, and other animals, and have obtained results which are essentially the same as those obtained by other investigators.

The effect of a *local* application, whether in powder or in solution, is to cause a progressive loss of functional power of all highly-organized tissues. Thus, I have found that when the alkaloid is applied to the exposed cerebrum of a frog, complete narcotism and paralysis of voluntary motion are rapidly produced; that after application to the spinal cord or a motor nerve, irritation above the point of application produces no motion below; that a sensory nerve to which it has been applied fails to convey an impulse made upon the periphery; and that in the muscle the contractile power becomes destroyed.

The local action is not that of a caustic character, but purely a physiological one, depressing or destroying the function and not the organ. Apomorphine possesses no irritant properties: it causes no pain when used hypodermically or applied to the skin or a raw surface.

GENERAL ACTION ON THE NERVOUS SYSTEM.

On the Brain.—Upon this portion of the cerebro-spinal system apomorphine acts primarily as an excitant, secondarily as a depressant, producing first a state of restlessness, which varies much in intensity. After moderate doses this state of restlessness is followed by one of quietude or sleep. If a toxic dose be given, the restlessness gives way to delirium, which is followed by a state of more or less profound narcotism.

In *frogs* the stage of restlessness varies in duration in proportion to the dose, being somewhat longer when the drug is given in small than when in toxic doses. In the latter instance the shorter stage of restlessness is compensated for by the longer stage of depression.

In *cats* the delirium is especially marked. After intravenous doses of .05 gram., they become very wild, jumping and running after imaginary objects, and sometimes going through very curious antics.

As I noticed in my experiments that the paralysis was almost complete before consciousness was apparently lost, the idea was suggested that the loss of consciousness might be simulated, not real,—the animal failing to respond to stimuli because his motor or sensory nerves or cord were paralyzed, although his cerebrum was active. To determine this I ligated the abdominal aortas in a number of frogs, and found that the loss of voluntary motion was complete in the posterior extremities after the state of unconsciousness came on. These experiments show that the condition was not one of pseudo-unconsciousness, for if such was the case the animal would have the power of voluntary motion in the portions of the body to which the poison had no access. This is assuming that the motor conductile portions of the cord are intact, which is shown to be a fact later in my paper.

My researches into the action of this toxic agent upon the *afferent nerves* show them to be progressively affected.

Thus, when all the vessels of the *right* leg were tied in a frog and apomorphia injected into the peritoneum, the strongest currents had no effect in causing reflex action when applied to the nerve (left) to which poison had access, although a strong current when applied to the *right* nerve caused slight reflex movements in the other leg. That these movements were not more active was evidently because the alkaloid has a depressant influence upon the reflex function of the cord.

I also found that the depressant action of the drug upon afferent nerves is progressive from the peripheries towards the centre; for, after the strongest current completely fails to produce a response when applied to the feet, a current of moderate strength will cause reflex movements when applied to the tibial nerve, and a much weaker current than this will have a very marked effect when applied to the sciatic nerve; after a time even the galvanization of the tibial nerve fails to elicit any reflex action, while the sciatic will still respond.

These experiments show that the sensory nerve trunks and peripheries are depressed and finally completely paralyzed by apomorphine, and that, although all portions of the nerve may consentaneously feel the depressant influence, the peripheries are the most susceptible, and hence are the earliest to succumb, the result being a deepening paralysis, which creeps upward over the nerves, until all functional activity, even of the largest nerve trunks, is lost.

A study of the effect upon the *efferent* or *motor nerves* shows them to be primarily stimulated, afterwards depressed, and finally completely paralyzed. These nerves sometimes remain in a state of hyperexcitability for some time after the motor columns of the cord have been markedly affected by the paralytic action of the drug; further, even after the strongest galvanic current will cause no effect when the cord is galvanized, a current of moderate strength, when applied to the sciatic nerve, will produce marked contraction in the tributary muscles. I also found that when all the blood-vessels of one leg of a frog were ligated, a current of a certain strength, applied directly to the spinal cord, caused movement in the unligatured leg only.

These experiments point very clearly to a stimulation of the efferent nerves. It may be said, however, that the reason the ligatured leg did not respond was due to a partial loss of functional activity of the nerve from the deprivation of blood for such a prolonged period. To obviate this difficulty and possible source of fallacy, a number of frogs were taken, and, after exposure of the sciatic nerve, the weakest current was found which, when applied to the nerve, would cause contraction in the tributary muscles. The drug was then given, and within the course of a half-hour observations were made, when the nerve was found to be unmistakably stimulated, this state of stimulation being followed by one of progressive depression, and finally complete paralysis. I append in detail one experiment, which represents the results in all.

Experiment LI.—Large frog. 9.15 A.M. Found the weakest current which when applied to the sciatic nerve would cause contraction in tributary muscles = 31 cm. of Dubois-Reymond coil; 9.20, injected .02 gram. into the peritoneum; 10.06, a current of 42 cm. causes marked response when applied to nerve; 10.07, convulsions; 11.00, a current of 44 cm. causes marked response; 12.00, a current of 25 cm. necessary to cause response; 2.00, a current of 16 cm. necessary to cause response; 3.30, the strongest current has very little effect; later, the strongest current has no effect whatever; galvanization of muscle elicits prompt response.

Convulsions.—A study of these most serious symptoms shows them to be precursors of death. They are, however, not invariably present, although they do occur in the vast majority of cases, and when present are unexceptionally followed by death. I have never known of a single animal recovering from the effects of the drug after having even a single convulsion, however slight it might have been. The convulsions are both tetanic and clonic in character; the former predominating in frequency. When clonic convulsions are present, they are generally followed by the tetanic.

The origin of these convulsions has never been determined. According to Harnach, they are cerebral,—*i.e.*, due to stimulation of the centres at the base of the brain,—his conclusions being based on the experiments he made upon chloralized animals, in which he found that convulsions did not occur. It would almost seem needless to point out the inconsistency of drawing such a conclusion from those experiments, since chloral is a depressant to the spinal cord, as well as to the centres at the base of the brain. His conclusions, therefore, are comparatively valueless. Quehl (*Ueber die physiologischen Wirkungen des Apomorphins* [*Diss.*], 8vo, Halle, 1872) suggests that they must be centric, as he certifies that neither the motor nor sensory nerves nor the muscles are affected by apomorphine. These latter statements are not correct. In investigating the source of convulsions, I tied either the abdominal aorta or the femoral arteries in a number of frogs, and cats, and rabbits, and in no case were the convulsions confined to, or more severe in, the anterior extremities.

I have further shown that the convulsions cannot be peripheral, by finding that injections of concentrated solutions of the alkaloid into the arterial system of the posterior extremities fail to induce local convulsions. As example I append the following experiment:

Exp.—9.12 A.M., injected a solution of apomorphia (.05 to 1 cc. water) into the abdominal aorta. No convulsions occurred; though in the web of the frog's feet, as well as on the cutaneous surface, could be seen the green coloration of the solution during the time of injection.

As the convulsions are not of peripheral origin, they then must be either cerebral or spinal. In numerous experiments upon mammals with autopsies, I found that after section of the spinal cord the convulsions usually were confined to the anterior extremities, though in very exceptional cases they affected alike both anterior and posterior legs.

The fact that in some experiments the convulsions did not occur posterior to the point of section would seem to show that occasionally they are cerebral; this appears the more plausible, since occasionally the convulsions are clonic.

Experiments made upon frogs show that the convulsions are in them unexceptionally spinal. The conclusion, therefore, to be drawn from the results of the above investigation is, that the convulsions are usually spinal, and in exceptional cases cerebral.

It yet remains to account for the consentaneous occurrence of centric paralysis of voluntary motion, spinal loss of reflex activity, and spinal convulsions. It is possible that the loss of voluntary motion is cerebral, although no absolute proof is forthcoming. The evidences pointing towards a cerebral origin are, 1st, the early development of narcosis; 2d, the occurrence of convulsions after a complete loss of sensibility and reflex action has existed. In regard to the loss of reflex activity, I found that when I ligated the abdominal aortas or femoral arteries of different animals, the loss of reflex power was as great in the limbs to which the poison did not have access as it was in the normal limbs. I also found that when not the slightest reflex response could be elicited by galvanizing the sciatic nerve, galvanization of the spinal cord caused marked contraction in the muscles of the posterior extremities; also, that convulsions occurred in animals in which there was total absence of reflex excitability. These results show that the motor conducting fibres of the cord and the motor nerve-trunks are intact, and that the sensorial conducting fibres or receptorial centres of the spinal cord are at fault.

Thus excluding the motor conducting tract of the cord and motor nerves, the loss of reflex activity implies a depression of either the inhibitory reflex centre of Setschenow in the medulla; of the inhibitory reflex centres of the cord; of the sensory conducting tract of the cord, or sensory nerves; or of motor receptive centres of the spinal cord. That the diminution of reflex activity was not due to a stimulation of Setschenow's centre, was shown by the fact, experimentally determined, that section of the cord had no effect in preventing such diminution. I believe it to have been due to a stimulation of the cells of the cord which inhibit reflexes, and not to any action of the receptive portions of the cord.

The reasons which cause me to believe that these inhibitory reflex centres are primarily stimulated and secondarily depressed are these: 1st. That the motor conducting tracts and motor nerves are shown to be intact, because convulsions can be caused in the posterior extremities by galvanizing the cord, when it is impossible to obtain any reflex response from galvanization of the sciatic nerve. 2d. The receptive and motor centres of the cord must be intact, else impulses could not be transmitted to the muscles in the spinal convulsions which follow reflex inactivity.

To make this more plain, it is allowable to reiterate some of my previous statements. In some of my experiments convulsions came on very soon after the administration of the drug, *i.e.*, a short time after reflex activity began to be diminished; in other experiments the animals died in a state of complete paralysis of reflex activity, no convulsions or convulsive movements having occurred; and in a third class the spinal convulsions did not come on until much later than in the first class mentioned, and not until after there had existed a state in which there was an absolute loss of reflex activity. For it was found, as before stated, that after the strongest galvanic current failed to elicit any reflex response when applied to the sciatic nerve, in a very short time the animal passed into a pseudo-hyperæsthetic state, and was thrown into violent convulsions by slight mechanical irritation. This assertion of a hyperæsthetic condition would seem inconsistent with the statement made in a previous portion of my paper, in which it was set forth that the sensory nerves were depressed. The explanation of this apparent contradiction lies in the fact of the drug having a double action to cause this remarkable series of phenomena: first, in the paresis of the sensory nerves; second, in a primary stimulation, followed by the secondary depression, of the inhibitory reflex centres of the cord. It is obvious, then, that the difference in the results is due to the predominance of the action of the drug on one or the other of these portions of the nervous system.

In the first class of cases above mentioned, I believe that the diminution of reflex activity is due to a partial paralysis of the sensory nerves, and a stimulation of these inhibitory reflex centres; that the stage of stimulation of the inhibitory reflex centres is very short, being soon followed by advancing paralysis, by which the power of inhibition is lost; and hence the afferent impulses, which in all probability would be inhibited by these centres when in a normal condition, although weakened by struggling through a depressed afferent nerve, pass on to the motor centres comparatively intensified on account of the absence of the normal spinal inhibition.

In the second class of cases, in which the animals die in a state of paralysis, not having exhibited any convulsions, either the sensory nerves succumb very early, or else the stage of stimulation of the inhibitory centres is very long; or, probably, both of these factors are present.

In the third class, the sensory nerves must be acted upon slowly while the stage of stimulation of the inhibitory centres is prolonged, and when the stage of depression of the inhibitory centres does occur, the sensory nerves still retain sufficient functional activity to convey impulse to the centres. It is clear that by destroying the function of these inhibitory centres, impulses which would either be arrested or modified in their passage through the centre, in a normal condition, are in this depressed or paralyzed state allowed to pass to the motor centres in an infinitely more powerful impulse than what would be in a normal condition. Hence very trivial impulses received by the peripheral afferent nerves may be very powerful impulses when they reach the motor centres, if the inhibiting power of the inhibiting centres is lost. This accounts for the hyperæsthetic condition which is sometimes observed to come on in the midst of what is apparently absolute paralysis of reflex activity. The spinal convulsions of apomorphia poisoning must be due to a paralysis of these inhibitory reflex centres of the spinal cord, and the loss of reflex activity to a paralysis of the afferent nerves and a primary stimulation of the inhibitory reflex centres of the spinal cord.

(To be continued.)

THE RUBBER BANDAGE IN THE TREATMENT OF LEG ULCER.

Read before the Philadelphia County Medical Society, October 22, 1879,

BY CHARLES HERMON THOMAS, M.D.

THE continuous use of the rubber bandage as a method of treatment of leg ulcer, brought to the notice of the profession by Dr. Henry A. Martin about two years ago,* has already taken high rank in mechanical therapeutics. Though widely known, it has not received all the attention it merits; nor is it employed as frequently, or rather as exclusively, as the accumulating evidences of its great value in these cases would warrant. Being still in the experimental stage to a certain extent, a larger experience with it promises to develop new facts likely to increase further its usefulness.

For several years preceding Dr. Martin's report I had frequently practised skin-grafting, both in hospital and in private practice, and, taken in conjunction with prolonged rest in bed, occasionally and rarely with elevation of the affected part, had become accustomed to rely on it with a confidence almost absolute. Indeed, leaving out a single case in which there proved to be syphilitic contamination, and which afterwards recovered under constitutional treatment, there had been no exception to prompt recovery in a series of cases numbered by scores.

But early in October, 1876, I was asked by Dr. James W. White—who had witnessed the good results in a number of my hospital cases—to graft a chronic ulcer complicated with varicosities, and which had proved peculiarly intractable. The patient was a lady about 50 years of age, inclined to obesity, and who, despite the most favorable surroundings and the prolonged attendance of more than one experienced surgeon, had for nearly ten years learned to look upon herself as little better than an invalid from this cause. During short intervals of comparative soundness of the limb an elastic stocking was habitually worn. She was now suffering from an acute attack of ulcerative inflammation, which still extended notwithstanding the use of various measures intended to check its inroads. Among the means employed were (1) the local application of iodoform, phénol sodique, etc.,—with and without strapping,—by adhesive plaster; (2) scarification, with free local bleeding; deep integumentary incisions completely surrounding the ulcer; (3) skin-grafting frequently repeated, and occasionally with grafts taken from healthy members of the family; and, finally (4), the wire splint suspending and forcibly elevating the limb. At times the condition of the ulcer improved somewhat; but, again, new ones appeared,—some of them connecting with it,— so that after *nine months* of persistent treatment, with almost daily visits, and with every needed facility at command, it was evident that but little if any progress had been made.

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* Transactions American Medical Association, 1877.

In the latter part of June, 1877, being at that time in the West, and having just seen Dr. Martin's demonstration before the Surgical Section of the American Medical Association at Chicago, I wrote to Dr. White, expressing my belief that the rubber bandage was the thing before all others to make use of in his patient's case. Meanwhile she had been removed to the seashore, where she was compelled to spend much of the day and all of the night with the limb suspended from the ceiling of her room. A bandage, taken from an Esmarch set, was forwarded to her, accompanied by simple directions as to its application, in which she was perfectly successful.

Immediately she laid aside her invalidism, indulging freely in surf-bathing, walking upon the beach, and the other occupations of the place. Her general health—which, through confinement to the house and in bed, together with want of exercise, had suffered greatly—at once improved.

The ulcers healed very rapidly, giving no pain or other inconvenience than that involved in the trouble of dressing them in the morning with the bandage, and at night, upon retiring, with simple dressings. Two years have now passed; I have seen her recently, and she is well and sound.

It may be mentioned that a severe eczema of the same leg recovered perfectly under the use of the appliance, and that the bandage worn until recently instead of the elastic stocking, as being at once more comfortable and convenient, has now also been laid aside, the varicosities having disappeared.

Another somewhat similar case came under my care at about the same time as the previous one. The subject was a man about 30 years of age, a pressman, whose duty involved his standing constantly throughout the day. From a contusion, originally, he had been subject to a succession of ulcers on one leg for some eight years. The treatment included several of the measures named, involving many graftings. After eight months of active treatment, which also failed of any good result, he left me to go under the care of an empiric.

I did not hear from him again until a year ago, when his employer, a patient of mine, spoke incidentally of his disabled condition, which was such as to make it almost impossible for him to support his family. I advised the use of the bandage,—which I afterwards showed him how to apply,—and he tells me that he has not since that day lost an hour's time on account of his leg. He was not only able to resume work at once, but, notwithstanding another severe injury to the same part, is able to walk daily to and from his work, a distance of two miles. At times he lays the bandage aside, but quickly resumes it again upon any sign of renewal of the diseased action.

A third case is that of a young man who suffered a violent contusion of the outer side of the leg and calf, caused by a runaway team. A deep slough supervened, and the ulcer took on a marked hemorrhagic tendency. This was so marked that very profuse bleeding occurred even upon his sitting up in bed for his meals. To counteract this, I ordered a kitchen dredging-box, charged with powdered alum, to be kept at the bedside, and to be freely used upon the part whenever the wound was dressed.

Two weeks after the suppuration of the slough, observing that no tendency to recovery was manifest, and that there were signs of extension of the inflammation, I applied the rubber bandage, first, however, taking a cast of the region (No. 1); six days later, another (No. 2); and three days after that, or nine days from the beginning, a third (No. 3).

My patient was quick to learn how to

adapt the bandage to the part, requiring scarcely a suggestion.

At the end of two weeks I advised him that he might safely return to his work, he having meantime been constantly about in the open air.

In this case it is worthy to be observed that, owing to a severe burning pain caused by the bandage when used alone, it could only be worn when a layer of linen or muslin was interposed in the region of the sore.

(The two patients last mentioned, with their bandages in use, together with the plaster casts (Nos. 1, 2, and 3), were here presented to the Society for examination.)

A fourth case is that of a lady whom I was called to attend during the present month. She came from Vineland, and had a rubber bandage upon her leg when I called. The ulcer was just above the external malleolus, was very painful, and had but recently developed; the slough still remaining adherent. The bandage gave her much pain; she limped badly, and said she "could not bear it." Upon examination, I found the bandage itself at fault. It was fully three inches in width; was peculiarly hard and inelastic, and of double the proper thickness. The following day I applied one suited to the case, which gave instant relief to pain. She walked with scarcely a perceptible limp, and went home two days later expressing herself as being entirely comfortable.

After seeing the good result in the first case here cited, and being impressed with the value of Dr. Martin's discovery, I recommended the use of the bandage to several professional friends, two of whom—Dr. Joseph Parrish, of Burlington, and Dr. E. R. Townsend, of Beverly—have kindly furnished me with notes of cases as follows:

No. 1.—A herdsman on an extensive stock-farm in this vicinity called on me, about two years since, with a varicose ulcer on the leg. He was about 30 years old, and I judged there was need of constitutional treatment by reason of excesses in his earlier life. An invigorating regimen was prescribed, with nitrate of silver, and adhesive straps to his leg. The ulcer healed after weeks of rest and persistent treatment. In a few weeks it returned, and he was placed under treatment again. Again the ulceration appeared, when I procured a rubber bandage, applied it, and instructed my patient how to apply it, and directed him to return to his work as usual. The leg was sound in a very short time, and has been ever since.

No. 2.—A colored woman, who makes her living at the wash-tub. Her husband stopped me, one day as I was passing, with a request that I would examine her limb. I found her in her room, her limb elevated and treated by salves and poultices, under the direction of an empiric. She had been in her room for several weeks. The ulceration covered a surface of three inches in the longitudinal line of the limb, and was nearly as wide. Calling the next day, I applied the bandage from the toes to the knee and directed her at once to go down-stairs and resume her duties. Before I left the house she did as I directed, and was able to meet her weekly engagements on the return of the following Monday. So far as I know, she has continued to do so.

No. 3.—A lady from a distance called on me for advice with the same trouble. She had no occasion for work, being able to rest and command every needed comfort and assistance. She had had an attack of crural phlebitis following her last accouchement, and there was not only an ulcerated spot of several inches in length, but a decided and continuous tumefaction of the whole limb. The local treatment consisted simply in the careful use of the bandage. I instructed her how to use it, and she continued to apply it daily till the healing was complete.

MY DEAR DR. THOMAS,—I have given you this brief and simple account of these cases because you first called my attention to the use of the bandage, and I am sure you will be interested in them.

Yours truly,
JOSEPH PARRISH.

BURLINGTON, N.J., October 6, 1879.

Case I.—October 5, 1877, Mrs. R., æt. 59, came to my office, walking with a cane, and exhibited a large ulcer on anterior surface of left leg, about half-way between knee- and ankle-joint. It had not been healed for three years. The ulcer was about two by three inches in size, with its edges everted, dark, and unhealthy; bottom of ulcer covered by broken-down cellular tissue; discharge purulent. Limb somewhat œdematous. I ordered a thorough cleansing twice daily and applied the rubber bandage, with directions to reapply in the morning before putting the foot to the floor, and remove on going to bed. While wearing it she performed her household duties without difficulty, and at the end of eight weeks the ulcer was entirely healed.

Case II.—Mrs. S., æt. 50, called me on account of a ruptured varicose vein on the top of left instep. Before reaching her she had lost considerable blood. On examining the limb, I found the veins of the entire leg greatly distended, the internal saphenous presenting in its course knots as large as hickory-nuts. There were no ulcers on the limb. After checking the hemorrhage, I applied the bandage and gave directions for its use.

This patient discarded the bandage within five months, the varicose tumors having disappeared almost entirely.

Case III.—John A., colored, had anterior tibial ulcer of six years' standing. Patient somewhere between 70 and 100 years old. Ulcer, of irregular outline, extending along the anterior surface of tibia fully four inches. Ulcer foul and fetid; edges hard, everted, and probably syphilitic. Applied the bandage, and at the end of six weeks again saw the patient, who had been wandering about the country. More than one-half the ulcer had healed, and the remaining portion was clean and studded with healthy granulations.

Case IV.—Mrs. P., weight 225 pounds; intemperate. Eight years ago a varicose tumor ruptured, and the wound developed into a chronic ulcer. During the winter of 1878 she was confined to the house, and called on me for aid in February, 1879. Applied the bandage and ordered proper dressings. Was on her feet at once, in four weeks the ulcer healed, but she has developed a monomania for rubber bandages, and wears them on both limbs, she says, to keep them from "busting" again.

In no case under my care has the bandage failed to give benefit when properly used, although in hot weather it frequently produced an eruption resembling a well-marked case of rubeola. E. P. Townsend, M.D.

It would be easy to multiply or extend the account of cases, but those given will sufficiently illustrate the more prominent practical points to be observed.

The quality and size of the bandage are of prime importance. If too thin it is inefficient, and if too thick or hard it becomes a source of irritation and injury. As to dimensions, a four-yard bandage, two and one-half inches wide, will answer perfectly for all cases below the knee.

They are now furnished at a price so low ($1.25) that they are practically within the reach of the poorest person. And then they are so durable as to last for years without deterioration. In applying the bandage no reversed turns are made, and I think it best *to begin directly over the sore*, wherever located, letting the bandage rest flatly upon it, afterwards making the adaptation to the rest of the leg as best one may. This being done in bed, before rising in the morning, it may be applied just so strongly as not to slip down, for when the patient assumes an erect posture the increased flow of blood to the part will induce the proper amount of pressure and tightness. Care should be used to avoid contact of oily matters with the rubber, as this would prove injurious; but it should be washed every night and hung up to dry. The ulcer ought also to be kept scrupulously clean.

Dr. Martin recommends that no application be used except the bandage; but I am convinced that the interposition of a soft piece of muslin or linen between it and the sore adds greatly to the comfort of the patient and the value of the treatment in some cases. Mr. McGill, of Leeds, reports (*Practitioner*) a series of about twenty cases of leg ulcer treated by Martin's method; all relieved except two. In these latter he ascribes the "want of success to the fact that the ulcers were inflamed and painful when the bandage was applied;" adding, "the application much increased the pain and necessitated the discontinuance of the treatment." My own experience is that this method is as applicable to acute as to chronic cases, and that inflammatory conditions are particularly amenable to treatment by it, provided that the simple expedient here mentioned be adopted.

In conclusion, it is not too much to say that the rubber bandage, in its application to the treatment of leg ulcer, constitutes one of the most valuable and important contributions made to surgery in recent times.

Its cost is but slight; it is easily applied by the patient himself, who is able to walk at once and follow all ordinary avocations throughout the treatment; and I believe it is more efficient than any or all other means heretofore used for the relief of this most disabling malady.

A CASE OF PARACENTESIS PERICARDII.

Read before the Philadelphia Pathological Society, October 23, 1879,

BY COMEGYS PAUL, A.M., M.D.,

Surgeon to Charity Hospital, etc.

IN his "Practice" Professor Flint has remarked that "the clinical data for determining the value of the operation of paracentesis of the pericardium are wanting." The few recorded cases in this country of an operation suggested at a time when medicine was not so exact a science as it is now, fully warrant such an assertion. An examination of authorities reveals the rather general opinion of doubtful expediency, most of them, however, admitting that it may *sometimes* be resorted to with benefit. It would seem that a want of success has exerted an influence very similar to that which controlled our judgment in regard to tracheotomy not many years ago; and it is not improbable that it will soon be understood that this operation, like tracheotomy, has been unsuccessful because of its delay until the vital power became exhausted, and not because of any bad effects from the procedure itself. As a purely mechanical remedy, it certainly has as much to recommend it as venesection practised for the relief of an overloaded heart; and when our predecessors let blood in cases of sthenic pneumonia, to restore equilibrium to an obstructed circulation against which an embarrassed heart was laboring without avail, it would have been as plausible to have attributed the fatal result to venesection as to claim that death is due to paracentesis rather than to the hydrostatic pressure of a distended pericardium.

The interest attached to this subject has been renewed by the recent discussion of the Philadelphia County Medical Society and the publication of an interesting and successful case by Dr. Pepper.

The relation of the following case is made because of several unusual circumstances attending it. The pericarditis was idiopathic, and failed to furnish as its cause any of the diseases usually considered as such. Suspecting a latent albuminuria, the kidneys were carefully examined; but they showed no trace of inflammation, nor did the lungs or pleura, except a small patch of hepatized lung, which can be otherwise explained. Neither was it a sequel to any of the continued and eruptive fevers. It is hardly necessary to say that there was neither rheumatism nor any traumatic reason.

Augustus H., a convict, 22 years old, of good physique and well nourished, had been in close confinement for nearly a year. With the exception of what is known as "prison pallor," there was no indication that incarceration had interfered with his general health. On the 18th of September he complained of an indefinite sense of distress, with slight fever and a suppressed cough. Respiration was somewhat increased and the pulse accelerated. Pain in the præcordial region was influenced by inspiration, which became shortened for this reason, as often happens in attacks of pleuritis. Physical examination located the disease in the præcordia by an unmistakable pericardial or cardiac friction-murmur.

The next day abnormal dulness appeared in this region over an increased area, with unusual prominence of the intercostal spaces. The apex-beat had been forced beyond the nipple, and the heart-sounds were more or less muffled and diminished in force. The patient now wore an anxious expression of countenance, and was more comfortable in a semi-recumbent position. The pulse fluctuated between one hundred and thirty and one hundred and forty beats, and, with the respiration, was easily excited by the slightest muscular exertion, causing at times a marked dyspnœa.

For the next three days these symptoms were unduly aggravated, the dyspnœa becoming continuous. The extremities were now cold as far up as the knees and elbows, and the stomach refused nourishment. Inability to sleep except in short naps, a constant tossing about of the body, a painful anxiety, and fear of death, were other indications of its near approach.

At this juncture I debated with myself whether the time had gone by when paracentesis pericardii would be of any avail in warding off the fatal result. As a last resort, I believed it to be practicable in this case, and, in the presence of Dr. E. C. Hine, and with his concurrence, I decided to adopt it. Not having an aspirator or a small trocar, necessity obliged me to make use of a long and large hypodermic needle. The puncture was made in the fourth intercostal space, halfway between the nipple and the middle of the sternum, and directly over the right ventricle. Half a syringeful of serum slightly tinged with blood was withdrawn, when the needle became clogged. It was not deemed expedient to repeat the operation with such an imperfect instrument, and no benefit was expected to follow it. Within two hours after, and contrary to hope, the præcordial oppression diminished, the circulation improved, the blue color of the lips disappeared, and his hands and feet became warm. This unlooked-for reaction continued during the next day and the day following. On the third morning his pulse was 90 and of fair strength. Towards evening he became worse, a relapse followed, and he died at three o'clock on the morning of the fourth day after the operation and the ninth day of the attack.

Autopsy.—Upon opening the chest, a quantity of serum was found in the mediastinal space, and a little in either pleural cavity, perhaps a pint in all. Neither the parietal nor pulmonary pleura exhibited any trace of inflammation. The lungs were of normal appearance, except a very small and circumscribed portion of the lower lobe of the right lung, about the size of an infant's hand, which overlapped that side of the heart. This inconsiderable and almost insignificant part was hepatized by vicinal congestion, or injured by the needle. The puncture of the needle had not left a discernible wound in the sac, but on the surface of the wall of the right cardiac ventricle were three minute and superficial scratches. These accounted for the bloody tinge of serum within the pericardium. The pericardial space was much exaggerated, the pericardial sac containing about eight ounces of fluid and surrounding a heart hypertrophied to nearly twice its natural size. The abdominal organs were in a natural condition.

This case may not be of less value because of its fatal termination. The post-mortem appearances afforded me satisfaction not only because they confirmed the diagnosis, but because the relief that followed the operation was in a measure explained by them; and on this account it would seem that the clinical facts have assumed more importance than if the result had been otherwise.

From the meagre quantity of fluid directly withdrawn by the instrument, we cannot in any way suppose the patient to have been benefited. The fourth intercostal space was chosen for the puncture because it appeared to be and was more directly over the right ventricle in this case, although Roger and Dieulafoy recommend the fifth. According to Dr. J. B. Roberts, the pleura must be wounded, "because it is reflected over the pericardium from the costal cartilages;"* and I think the extreme border of the lung is unlikely to escape. The quantity of serum in the mediastinal space and in both pleuræ by endosmosis is evidently the explanation of the gradual relief that followed the above operation. The over-distended pericardium allowed the confined liquid to escape slowly through the puncture, thus gradually removing, in two hours, the powerful compression under which the heart was laboring. This relief was continued for nearly four days, when, the aperture having become obliterated, the pericardium slowly, but partially, refilled itself. The prostration of the patient was unequal to the resistance of a renewed attack, which obliged him to succumb finally to asthenia.

Twenty-First and Fairmount Avenue.

TRANSLATIONS.

Atrophy of the Optic Nerve in Erysipelas of the Face. — Parinaud (*Cbl. f. Med.*, 1879, p. 614; from *Archives Gén.*) says that only six cases of this nature can be found in literature. He describes two additional. The first is that of a woman of 26, who had suffered from erysipelas running its usual course, and in whom a sudden increase of temperature took place, with severe headache on the left side. During the next few days the patient observed a marked diminution in the sight of the left eye, while the right became almost totally blind. Ophthalmoscopic examination showed neuritis anterior. At the end of a month distinctness of vision had somewhat improved, but it never entirely returned. The second case, in a person of 59, was very similar, both eyes, however, being affected to about the same degree. In five of the cases referred to, one eye only was affected. In the sixth case, as in Parinaud's, both were diseased. Parinaud thinks that the unilateral eye-trouble depends upon an affection of the optic nerve alone, which does not extend to the chiasm. In the double cases the origin of the trouble is to be sought for in the central organ.

A Contribution to the Biology of Bacteria.— Peter Kuehn, in an inaugural dissertation recently published in Dorpat, having observed the various results obtained by experimenters in the employment of antiseptics when these were used against the bacteria developed in one or another nutrient fluid, determined to examine the nature and varieties of some of these bacteria, and set himself to review the subject generally. He concludes (1) that the various forms of bacteria appear to cause different kinds of decomposition in the same fluid, while the same variety always gives rise to the same decomposition in the same fluid; (2) that in some kinds of bacteria and in some stages of development certain fluids absolutely fail to nourish, the same fluids under other circumstances being abundantly capable of developing either other forms or the same form in other stages; (3) various forms of bacteria which, transplanted to unfavorable media, fail to flourish, will flourish abundantly when returned to their native element; (4) the highly-refractive comma-shaped globules appear to be a stage in the development of the rod bacteria.

Naegeli's hypothesis, that the nourishing medium can influence the variety of decomposition roused by the fungus beyond its own limits, is not supported by Kuehn's observations.

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* Phila. Med. Times, August 16, 1879, p. 547. I have no doubt that Dr. Roberts's monograph, "Paracentesis of the Pericardium," will place the subject on a fitting basis for the present time.

PREPARATION AND USE OF ALBUMINATE OF IRON. — Dr. W. Donitz, of Tokio, Japan, in an article on this subject in the *Berliner Klinische Wochenschrift*, 1879, No. 36, says that the Japanese are peculiarly liable to anæmia, induced by gastric and intestinal catarrh. In searching for a proper form of iron for administration in his numerous cases, he has hit upon the albuminate, which is made as follows. The whites of one or two eggs are beaten up with about five ounces of water, while six drops of the sol. ferri chloridi of the German Pharmacopœia are dissolved in an ounce of water in another vessel. The iron solution is then added gradually to the albumen, the mixture being continuously and vigorously stirred meanwhile. At first the mixture is cloudy, but by thorough stirring it becomes almost or quite clear. The cautious addition of a few drops of hydrochloric acid clears up the solution, but this is hardly necessary if the stirring process has been well carried out. When the solution is cloudy or contains clots of albumen, it may easily be filtered. The filtered fluid is brought up to six ounces, so that a tablespoonful will contain one-half drop of the iron solution. For convenience of dispensing the albuminate of iron, it may be dried into thin scales and powdered, since it is easier to dissolve this powder in water than to prepare a fresh lot of the moist albuminate. Dr. Donitz has employed this preparation for the past two years with great satisfaction. It can be given in cases where the stomach is so weak that no other preparation of iron is tolerated. The dose is a tablespoonful thrice daily. Hypodermically Dr. Donitz has given the preparation in doses of one-eighth grain or more in an ordinary syringeful of solution, of which one-half was injected in one locality and the other half in another at one time. No abscesses followed.

THE PHYSIOLOGICAL SIGNIFICANCE OF THE LIQUOR AMNII. — Fehling (*Cbl. f. Med.*, 1879, p. 603; from *Arch. f. Gyn.*) estimates the liquor amnii of a mature infant at one-half to three-quarters of a litre, the quantity increasing from two hundred to two hundred and fifty grammes in the last four or six weeks. The development of the embryo and that of the liquor amnii do not appear to bear any relation to each other, nor does the sex appear to be significant. On the other hand, the length and number of convolutions of the umbilical cord exercise a decided influence on the quantity of the liquor amnii. With a greatly-convoluted cord there is a larger quantity of liquor amnii, as also where the cord is deeply inserted, as a result of the increased pressure of the water upon the placenta in deeper insertion. Gusseron's researches go to show that urine is mixed with the liquor amnii, although the presence of urea in the earlier months of pregnancy may be accounted for by the fact that this is at that time contained in the fluid of the mother's tissues; and it appears inadmissible to Fehling that the mere presence of the urinary secretion in the liquor amnii can alone prove that the fœtus urinates regularly, that this urine is one of the chief constituents of the liquor amnii, and that the fœtal kidney acts just as that of an adult.

In order to ascertain how much urine is passed by the fœtus into the liquor amnii in a given time, Fehling made use of foreign materials passed into the liquor amnii. He gave salicylate of sodium or ferrocyanide of potassium to a series of pregnant women. As the necessary conditions for these experiments were very hard to obtain, Fehling was obliged to content himself with a few satisfactory experiments. Of three experiments with salicylate of sodium, one gave a negative result; one showed that in twenty-six days forty grammes of urine at the most could be mixed with a litre of liquor amnii; the other that in thirty-four days some sixty-five centimetres of urine could be discharged into six hundred and fifty-five centimetres of liquor amnii. Out of seventeen experiments with ferrocyanide of potassium this could only be found in the liquor amnii in three instances. This passage of foreign matter into the liquor amnii could have taken place without the intervention of the fœtal kidneys. Fehling concludes that the fœtal kidneys certainly do not act as those of adults. In some of his experiments the mother as often passed the salicylate as the child.

CHRONIC MERCURIAL POISONING. — B. Feinberg (*Cbl. f. Med.*, 1879, p. 576) describes a case of alalia and disturbance of hearing in a mirror-maker. The paralysis showed a central character, and was introduced or accompanied by severe, persistent tremor. Mercury was found in the urine and saliva, but not in the sweat.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, DECEMBER 6, 1879.

EDITORIAL.

THE NEW EDINBURGH INFIRMARY.

THE completion of the Edinburgh Royal Infirmary adds to the long list of the world's great hospitals a building which is probably the finest of them all. It was in 1725 that the first steps were taken towards the establishment of an infirmary in the city of Edinburgh. From various sources the sum of ten thousand dollars having been obtained, in 1729 a small house was opened, and during the following year succor was extended to thirty-five patients. In 1738 the corner-stone was laid of the east wing of the building at present occupied. As is well known, the institution is practically a portion of the University of Edinburgh. The two hundred and twenty-eight beds, to which the hospital has gradually grown, have long been insufficient for the demands of charity and also of clinical teaching; so that about twelve years ago a determined effort was entered upon to obtain funds to erect much larger buildings. The success crowning these efforts is shown by the present magnificent structure, which has been erected at the cost of about one million seven hundred thousand dollars, including the money paid for its eleven and a half acres of grounds. The plan of the infirmary is that of three-story pavilions, the medical and surgical portions being entirely distinct one from another. No possible expense seems to have been spared in the fitting up of the hospital, as is at once shown by a comparison of the number of beds (two hundred and seventy-six medical, two hundred and ninety-five surgical) with the cost of erection. The operating, pathological, and other clinical theatres are especially well spoken of. By the use of impervious paints and varnishes, the attempt has been made to render the floors and walls absolutely non-absorbent. It is stated that there have been two hundred and fifty thousand yards, or about fifty-one acres, of painting. No medical institution in the world is more famous for the practical skill of its alumni than is the University of Edinburgh, and we doubt not that the good effects of the increased clinical opportunities will be seen not only in the numbers of the attending classes, but also in the continuing and increasing skill of the future alumni.

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PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the hall of the College of Physicians, Philadelphia, October 22, 1879, Prof. Henry H. Smith, President of the Society, in the chair.

Dr. Harrison Allen made some remarks inviting attention to the

ERRORS OF CONFORMATION OF THE NASAL CHAMBERS STUDIED IN RELATION TO THE CAUSE OF NASAL DISEASE AND IRREGULARITY OF THE TEETH.

Dr. Allen traced the plan of the normal facial development, and contrasted it with the results of departure therefrom. After a description of hare-lip, cleft palate, etc., he spoke of a class of errors which in his judgment deserved more attention than they had hitherto received.

Instances of congenital fistulæ of the neck,—of depressions or clefts in or about the auricles,—of dermoid cysts of the face and neck,—were thought to be traceable to imperfect closure of the spaces between the visceral arches of the embryo. He thought that this subject had been much neglected in this country, so far as he knew no cases having been recorded here. In Europe, Ascherson, as early as 1832, had collected eleven instances of cervical fistula; Paget has lately elaborately studied the defect of the auricle; Murray and Richet have given us instances of cysts of lower lip; and Cusset and Wagstaffe have determined the locations of dermoid cysts, the latter having tabulated twenty-three examples of this interesting excess of growth, the result, it was thought, of imperfect nutrition at certain points along the lines of the visceral arches. The immediate object of Dr. Allen's communication, however, was to ask of the members assistance in collecting materials for another object of study. The speaker had been for the last four years engaged in collecting cases of errors in development and growth-force of the face, processes not ending in gross defect, but exerting just sufficient disturbing influence over the bones of the face to prevent perfect success in shaping the nasal and oral cavities. As a tentative hypothesis to aid him in his researches he presented the following: That inasmuch as the face is a result of the lateral visceral half-arches joining the median structures projected from the front of the brain-case, it follows that if there is want of harmony between the two genetic movements, errors of symmetry may readily occur. Explanation may be thus given of the asymmetry of the nasal chambers, the external nose, the two halves of either of the dental arches, entirely apart from the acquired defects in the same localities.

Applying this hypothesis to practice, Dr. Allen had recognized a well-defined group of cases in which the nasal chambers remained from birth partially or entirely occluded. He mentioned in detail two cases in which breathing through the mouth was enforced, and the permanent teeth came in irregularly. He thought that the permanent teeth always had a tendency to irregularity when marked obstruction existed in the nasal chambers at the time the permanent teeth are developing and erupting. This is due to two causes, viz., the absence of the normal occlusion with the teeth of the lower set in mouth-breathers, and the errors of developmental force which have operated in preventing the proper formation of the nasal chambers and the superior maxillæ. He thought that in cases of obstinate nasal catarrh in children from seven to eighteen years of age, in whom the upper permanent incisors were overlapping and convergent, the two halves of the upper dental arch more or less V-shaped, the tonsils tumid, the roof of the mouth with a high, narrow vault, the cause was deep-lying and congenital, and affected all the structures of the face. Those adults who have measurably recovered from the nasal trouble named, owing to the compensatory changes in the bones, may yet have irregular upper teeth and a high-pitched hard palate. In addition to these peculiarities they exhibit a peculiar form of the external nose. The organ is unusually prominent, and possesses a stout septal cartilage. Dr. Allen believed that this peculiar shape of the nose was the result of a persistent narrow hard palate. Such a palate did not permit the nasal septum to grow downward, and, as it could not extend backward, by reason of the peculiar fixation of the vomer, to the sphenoid bone, it was forced to go forward: hence the projecting nose. It will be thus seen that we have for one form at least of nasal catarrh in the adolescent, and one form at least of irregularity of the teeth, a simple cause, which necessitates, however, a knowledge of embryology to understand. Dr. Allen desired access to more material for study than he was likely to secure unaided, and requested the members to furnish him with any information which would either confirm him in his position or correct his temporary conclusions.

Dr. Jas. E. Garretson said that the remarks made by Prof. Allen were of great interest, although it was clear that the subject is a complicated one. The speaker had himself called the attention of the dental profession to this topic some years ago, but its importance is not generally appreciated by the general medical profession. The concluding observation upon the connection existing between deformities of the nasal chambers and chronic catarrh is important for the surgeon and physician to comprehend. At some future time he pledged himself to give his views in full upon this subject.

Dr. O. H. Allis asked if any member of the Society had seen cleft palate in a negro, or even hare-lip, as he understood the lecturer to say that the negro is not so liable to it as the white race.

Dr. R. J. Levis had never seen either deformity in the negro.

Dr. Henry H. Smith also had not encountered any, although he had operated upon several hundred in the white race. In the last few days he had seen an illustration of the failure of the closure of a hare-lip to affect a cleft palate. A young man upon whom he had operated in infancy for double hare-lip, leaving a cleft in the palate for a future occasion, came to him with the opening in the palate just as decided as when he last saw it.

Dr. Ludlow inquired of the lecturer whether any chemical examination of the bone had been made in the cases of deformity referred to, and whether or not the change in shape might be due to change of chemical composition.

Dr. Allen did not know.

Dr. Ludlow had taken Prof. Agnew to see a very light skull from the cabinet of Dr. Parry; it was as thin as paper. There was in that case a deficiency of the earthy salts, and he would like to ascertain if such a deficiency existed in Prof. Allen's cases. He referred to a case, evidently scrofulous, that is now under treatment, where there is a bending of the nose to one side, apparently due to change in the composition of the bone. In syphilis we also see such changes, from remote inheritance: this change is most likely to be present where the bone is easily affected by pressure.

Dr. Allen was glad that this question was raised, as it served to show how little is known on the subject. He called attention to the difference between ozæna and catarrh: in the former, caries of the sphenoid is found after death,—a very different condition from the mucous swelling of catarrh. In cases of slow atrophy of the nasal bones, without ulceration, where a syphilitic taint is present, the diagnosis can be made from the other attendant signs of specific disease. He did not doubt, however, that the last speaker was right in regard to the change in composition of bones, or that, in many cases, such a change might be found.

Dr. Chas. H. Thomas mentioned two cases of nasal deformity in which the high vault of the palate referred to by the lecturer was noticed; one was subject to nasal catarrh, the other had frequent attacks of tonsillitis.

RUBBER BANDAGE FOR LEG ULCERS.

Dr. Chas. H. Thomas read a paper on the treatment of chronic ulcers by the pure rubber bandage of Dr. Martin, and presented two cases to exhibit the facility of application by the patients themselves.

Dr. John H. Shoemaker had used the rubber bandage both in leg ulcers and eczema. In skin disorders he recommended primary depletion, by punctures or scarification, and constitutional treatment. He followed the method of Dr. Thomas in placing a piece of linen over the ulcer, to protect the bandage. In some few cases the bandage had produced erythema, so that it had to be discontinued.

Dr. Benj. Lee said that the difficulties referred to may have been due to not using a pure rubber bandage, to which Dr. Martin had called attention in a recent letter published in England. No carbolic acid or other substance should be added to the rubber.

Dr. John B. Roberts said that the rubber bandage had been used in the Pennsylvania Hospital, for leg ulcers, in 1876, by Dr. Wm. B. Hopkins, who discovered its value independently of the researches of Dr. Martin, and before the article of Dr. Martin was published.

Dr. Wm. B. Atkinson had used the bandage, both for ulcers and varicose veins. Lately he had applied it to a case of swelling following gout in the hand. Not being able to purchase a small bandage, the patient had bought pure sheet-rubber, of the desired length, and had cut off strips, which were very efficient as bandages.

Dr. R. J. Levis recommended the use of the bandage for the persistent swelling that follows a fracture, due to disturbance in the circulation. All surgeons have found a difficulty in getting patients upon their feet after a bad fracture: he believed this expedient would be of great assistance to others, as it had been satisfactory to himself.

Dr. Shoemaker said, in reply to Dr. Lee, that he had obtained bandages directly from Dr. Martin, and had noticed that some patients could not wear them. These were exceptional cases, however, and he had found the bandage very useful in the manner recommended.

Dr. W. R. D. Blackwood had noticed that one trouble with the rubber bandage is that there is no excitement about its application, and it lacks the brilliancy of a surgical operation; although, in his experience, it had proved to be better than anything else ever brought forward for the treatment of leg ulcers and varicose veins. He had experienced the difficulty that Dr. Shoemaker had referred to, but had found that the irritation ceased if the use of the bandage was persisted in. He had abandoned all applications, powders, etc., and followed Dr. Martin's directions. Some physicians use vulcanized rubber, but he believed that it created irritation, and produced an eruption, as it contains sulphur and antimony.

Dr. James Collins mentioned a case at the German Hospital, where the pure rubber bandage caused so much sweating and irritation that it could only be worn for a very short time at first, but by persevering with it the patient was finally able to wear it for twelve hours without changing.

Dr. Thomas had noticed erythema and irritation occurring at first, but the parts afterwards became accustomed to the bandage. It is remarkable to observe the amount of epidermis, or epithelial scales, that are thrown off during the early use of the bandage, or during the first few days. The bandage must not be too tightly applied at first. He generally ordered the limb to be bathed with an alum-wash at bedtime (bathing-whisky half a pint, containing two and a half teaspoonfuls of powdered alum). The bandage should also be washed each night with Castile soap and water, and hung up to dry. Applications may be made to the ulcer during the night, if desired. As regards the question of priority in its use, he believed the credit is due to Dr. Martin, of Boston, although he does not claim it, but for the last twenty-five years he has had it in constant use, and has finally brought it to the notice of the profession.

By a resolution which was unanimously adopted, the thanks of the Society were tendered to Drs. Allen and Thomas for their valuable communications. F. W.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, OCTOBER 23, 1879.

THE PRESIDENT, DR. S. W. GROSS, in the chair.

A heart from a case of paracentesis pericardii.
Presented by DR. COMEGYS PAUL.

THE details of this case are given in the present number of the *Times*, pp. 115–117.

Two specimens of aneurism of thoracic aorta.
Presented by DR. E. T. BRUEN.

The clinical history of the first case which I shall present will be found in the *Medical*

Times for October 11 and 25, but the specimens, I hope, will interest the Society, and I therefore present them with a brief description. Specimens taken from the body of George W., æt. 38 years.

Examining the aorta, a globular tumor as large as a goose-egg will be found arising from the superior portion of the right side of the ascending aortic arch. This tumor grew outwardly, causing a swelling, apparent during the patient's life, between the second and fourth ribs on the right side, at their junction with the sternum, and extending laterally three and one-quarter inches to the right side from the median line.

From the posterior portion of the ascending arch another tumor, similar in size and shape, is found. This tumor extended backward until it touched the bodies of the vertebræ, pressing inward the trachea, decidedly diminishing its calibre, just above the point of the bronchial bifurcation. The tumor is also adherent to the right bronchial tube which leads to the inferior lobe, almost occluding its lumen; the union between the tissues of the two structures is so intimate that I cannot separate them.

The inferior portion of the lower lobe of the right lung is collapsed and splenified; the remaining portion of the pulmonary tissue is emphysematous, completely covering the splenified area.

Passing over the inferior surface of the lower tumor the pneumogastric nerve can be seen; during life this nerve must have been compressed between the tumor and the bodies of the vertebræ.

The tumors are very hard and solid; when I introduce my finger into them they are found almost completely filled with organized fibrin, so that but little blood could have entered them. During life no thrill could be felt over the tumor, and only a feeble systolic murmur could be heard, which was intensified by pressure.

The absence of these physical signs is now clear, since no blood could have entered the tumors. The increase of the murmur by pressure is explained, I think, by the fact that such pressure must have diminished the calibre of the aorta, just as a murmur can be developed in any superficial artery.

It seems to me that if this explanation of the clinical observation had been appreciated during the life of the patient, it would have led to the diagnosis of the contents of the tumor which was superficial.

The radial pulse during life was noted to follow the femoral pulse; this must have been due to some interference with the passage of the blood into the innominate or subclavian arteries, but the tumors do not appear to obstruct their orifices in any way.

Death resulted from asphyxia due to pressure on the pneumogastric nerve and bronchial tubes.

There was no admission of syphilis on the part of my patient, but he confessed that for many years he had used alcoholic stimulants to excess.

In the second case the patient was admitted to the Philadelphia Hospital on the evening of Saturday, October 18, 1879.

She was almost moribund from asphyxia, evidently in part due to some laryngeal obstruction, in part to intrathoracic pressure on some portions of the bronchial tubes. She died twenty-four hours afterwards. She had been an inmate of the house several years before, suffering at that time from rheumatism; but there is no record as to whether or not this was syphilitic. She was 43 years old.

On examining the aorta, a number of small saccular pouches are found,—one at the junction of the descending arch with the portion of the aorta called thoracic. This sac was adherent to the vertebral column, and had eroded very deeply the bodies of two vertebræ. A second sac projected backward from the descending arch, compressing the œsophagus. Here the coats of the aorta have disappeared, and the blood is separated from the œsophageal tube only by its own walls.

Another sac bulges the transverse arch anteriorly. The entire aorta is covered with atheromatous plates. The valves of the aorta are sufficient; the heart is somewhat hypertrophied. The lower lobe of the left lung is splenified; the lower lobe of the right lung is solidified partly by splenification, partly by pneumonia.

There is no *direct pressure* on either *bronchial tube* or trachea—as the specimen lies before me. During life, however, it is most probable that these sacs, being distended by blood, did occasion pressure on both the trachea and the bronchial tubes.

Moreover, two of these sacs arise near the position at which the recurrent laryngeal nerve of the left side passes around the aorta; doubtless this nerve was irritated, causing laryngeal spasm.

These tumors are the smallest I have ever seen associated with such severe symptoms during life, and with the pulmonary conditions I have described.

In these two cases we have the illustration that emphysema, splenification, and pneumonia can be caused by intrathoracic pressure from aneurism of the aorta.

Tumor of submaxillary triangle. Presented by DR. JAMES E. GARRETSON.

The tumor presented was removed from between the leaves of the submaxillary triangle. The history associated with it is to be given in a few words.

The patient from whose neck it was removed is a young gentleman residing in Pittsburg, in this State. His age is 20 years. His general appearance indicates the existence of a dyscrasia. He is slow in his movements, pasty as to complexion.

I call the tumor by no name, because I know it alone as a growth that does not explain itself. To put it differently, it is a neoplasm as contradistinguished to several tumefactions of the region which it is easy to know all about and as easy to cure; inflammatory tumors, ranula, hygromas, for example.

The tumor, as you see, has been ablated. No assurance is possessed by me that it will not return; this, because I am ignorant of the meaning of its origin.

The growth is of four years' standing, and was first accidentally noticed by the patient as a kernel deeply seated in his neck. Enlargement has been gradual and regular.

Is the tumor upon the plate the submaxillary gland, or is it of other origin?

In removing the superficial leaf of the submaxillary triangles there are frequently met with two lymphatic glands lying directly upon the submaxillary. These glands I have on several occasions removed, finding the salivary organ intact. It is not uncommon, as my experience has demonstrated to me, to find that hypertrophy of these lymphatic bodies has caused a disappearance of the gland beneath, so that often it is the case that a submaxillary gland, described as being removed by the knife, had been taken away long before the day of operation through nature's process of absorption. The same thing has enlarged demonstration in the case of the parotid gland. I have myself done quite a number of ablations in this latter region, have cleansed out the parotid space, have found the facial nerves imbedded in growths removed, have not seen a sign of anything like a gland-lobule remaining after my work was done, yet to-night am not at all assured that I have ever, in my life, removed the parotid gland.

The salivary glands are slow in yielding to malignant expression; adjacent glands, however, frequently enough take on neoplastic enlargement. Whether the body before us is the salivary gland, or one of the lymphatics referred to, it will be interesting to have determined by the microscope. Practically, however, the difference is nothing; the tumor upon the plate occupied the submaxillary triangle, and beside it there was no other body in that recess. The interest of the case lies in the question, Am I wrong or right in esteeming and treating the enlargement as a neoplasm? This, for the reason that if the tumor prove no neoplasm, the practice pursued exposes weakness. In position the growth possesses the hardness and common lobulation of scirrhoma.

Report of the Committee on Morbid Growths.—"The microscopical examination of the specimen presented by Dr. Garretson shows it to consist of a glandular structure made up of ducts and acini lined by epithelium. Also throughout the sections are seen numerous islands or patches, consisting of irregular-shaped cells separated by a structureless hyaline intercellular substance. The formation would, therefore, be a cartilaginous development within a glandular organ.

"November 13, 1879."

Tumor of the kidneys. Presented by Dr. C. Seiler.

The specimen presented is a piece of tumor of the kidney which was sent to me for microscopical examination; and, as tumors of the kidney are rare, I thought it would be of interest to the Society, even though the history which I was able to obtain is very unsatisfactory.

The child from whom the specimen was removed was apparently healthy at birth, and remained so for eight months, when it began to sicken, and an enlargement of the abdomen was noticed, which continued to increase, until it assumed enormous proportions; the secretion of urine being, however, normal. The child died at the age of 13 months, and at the post-mortem examination three tumors were found in the abdomen,—one in connection with the mesentery, and two larger ones, each of the size of a child's head, in connection with the kidneys. These seemed to be split by the tumors, and were very much enlarged.

A microscopic examination of the growth showed it to consist of dense connective tissue containing large spindle cells, which latter showed, under high powers, transverse striæ. I therefore consider the tumor to be a rhabdo-myoma.

REVIEWS AND BOOK NOTICES.

Transactions of the American Gynæcological Society. Vol. III., year 1878. Boston, Houghton, Osgood & Co. The Riverside Press, Cambridge, 1879.

In much better tune than its predecessors, the papers are still fresh, the discussions still living. The rigor mortis which rapidly comes to scientific literature in this hurrying age has not yet set its seal on this volume. Though smaller than the previous Transactions, it contains most excellent papers, and there is a positive gain in quality to compensate for diminished bulk. The annual address, by Dr. Goodell, is chaste, classical, and full of interest: it is devoted to the subject of "Neurasthenia in its Relation to Diseases of the Womb." Those who have not yet witnessed the remarkable results of the plan of treatment by rest, diet, and manipulation, and called sometimes the "rest-cure," would do well to read this address and the cases narrated in it. We are glad to see so able a gynæcologist taking the ground that nerve-trouble may be at times the cause rather than the consequence of uterine lesion.

Dr. J. Marion Sims contributes a valuable paper on the "Surgical Treatment of Stenosis of the Cervix Uteri," with many wood-cuts, which is written in his well-known and captivating style. Dr. J. T. Johnson gives a very interesting and rarely reported case of head and foot presentation; Dr. Emmett, an article on the "Necessity for Early Delivery, as demonstrated by an Analysis of One Hundred and Sixty-one Cases of Vesico-Vaginal Fistula," which is encouraging reading for the timid.

Two cases occur near together, one "On the Hand as a Curette in Post-Partum Hemorrhage," by H. P. C. Wilson, M.D., and the other on "The Treatment of Post-Partum Hemorrhage," by R. A. F. Penrose, M.D. In the former we fail to see anything very novel, but do discern a hint of what might prove an exceedingly dangerous proceeding. The paper might have been aptly named, "How to excoriate the uterus with long and perhaps dirty finger-nails and produce septicæmia."

The paper of Dr. Penrose may be a surprise to some who are not familiar with his teachings. The very serious nature of the problem how to find a safe, ever-present, rapidly-acting uterine stimulant makes the suggestion of vinegar a positive flash of genius. We do not understand that the distinguished author claims the discovery of vinegar, but, by whomsoever discovered, this application of it bears the stamp of an original mind. The author terms it (by the by) "the new and powerful stimulus," which suggests far wider fields and gayer scenes than the lowly and quiet lying-in room, and there vinegar may yet prove a conqueror.

By the use of vinegar the obstetrician is relieved from the servile task of carrying with him his iron, his iodine, and his syringe. True, the vinegar-cruet is unhandy for the pocket and dangerous for the clothes, but, thank heaven, we are spared that, since such is the civilization of this favored land that its presence in almost every family may be counted on as a certainty. It may be empty, however, or filled with a thick and mothery liquid of dubious odor, and the family grocer may not respond to the midnight summons for more with the alacrity of the pharmacien; but education and time will overcome that, and, before long, to the advertised virtues of pure cider-vinegar will be added testimonials to its obstetric value from distinguished medical men, addressed, in circular form, to paterfamilias on the eve of interesting family events.

To return, however, to the gist of the matter, how is it that vinegar rather than acetic acid should possess this valuable power? Acetic acid being manufactured of much greater strength, the question becomes puzzling, but a comparison of the two articles reveals a wonderful and curious reason. The acetic acid contains no eels. It is the eel, then, which is the "new and powerful stimulus;" it is the eel that plugs up mechanically the bleeding orifices of the uterine veins,—wonderful provision of nature!

But unpleasant thoughts will intrude. There is a worm in the core of the fairest fruit: what will ensue when the uterus swarms with millions? What will be their future destiny when abandoned in the—to them—vast uterine cavity? What rambles may they not take? what disastrous consequences cause? Through the Fallopian tubes may they not penetrate the abdominal cavity and there take up their habitation? Their vitality is tremendous, and, like the Colorado potato-bug, finding new food and a genial habitation, may they not increase and multiply till the unfortunate patient, rescued indeed from immediate death, may still outherod Herod in the mere number of her worms?

Among the many interesting papers we find one by Dr. A. H. Smith, of Philadelphia, on the "Pendulum Leverage of the Obstetric Forceps," an article exhibiting great study, admirable ingenuity, and a thorough mastery of the mechanical method of attacking obstetric problems. Still, both in the able paper and in the spirited discussion following it, the point seemed to be forgotten that there are two kinds of forceps,—a wide, non-compressing kind, applicable peculiarly to the sides of the pelvis, only indirectly to the child's head; a narrow, compressing instrument, applicable especially to the sides of the head, dangerous when otherwise applied,—and that the pendulum leverage, so called, is only possible with the latter, with which we may indeed exert dangerous pressure on the mother by using her tissues as a fulcrum; whereas in the wider instrument, the Simpson or the German forceps, in whose grasp the head lies in whatever direction it may chance to be, but whose blades occupy the safest possible situation for the mother, viz., in the axis of the pelvic canal, we cannot by any reasonable pendulum-motion do anything more than merely alter the line of our traction, shifting the axis of traction to one side or the other as we endeavor to find a point where our efforts will nearest coincide with that curved axis which the child most naturally seeks, a line which evidently varies in different cases, and somewhat even in cases apparently identical in position. In other words, we are not simply seeking to drag down the head by mere force, now a little to one side and then a little to the other, but so to apply our power as to best assist the head to seek its natural course. What that may be is often doubtful to the inexperienced obstetrician, and with those of larger experience it may be sometimes so; and our pendulum-motion, made within certain limits of safety, appeals to the chances, where certainty may not be possible, that by shifting our direction of traction a little we may happen to apply our force exactly where it will tell the most. It may be a confession of weakness, but it is certainly at times a valuable help.

The memoirs of Drs. Peaslee and Atlee possess a melancholy interest. The latter, by Dr. T. M. Drysdale, covers many pages, and is, in every sense of the word, a true memoir and a fitting tribute to the great ovariotomist's worth and skill. The many able papers forbid an extended notice, but we cannot too highly commend the volume, both for its external beauty and its internal worth. E. W. W.

A TREATISE ON VOCAL PHYSIOLOGY AND HYGIENE, WITH ESPECIAL REFERENCE TO THE CULTIVATION AND PRESERVATION OF THE VOICE. By GORDON HOLMES, L.R.C.P. Edin. London, J. & A. Churchill, 1879. Pp. 255, 8 wood-cuts.

We do not remember having ever read a book on this subject with more pleasure and profit to ourselves than this treatise, which is replete with facts and quotations from a multitude of authors, selected with the greatest care. In it the author shows an intimate acquaintance not only with the physiological actions of the different parts of the complex vocal apparatus, but also with the musical and æsthetic aspect of his subject.

In the preface the author says that he intended the book for persons making a professional use of the voice, and that some of the chapters may be of interest to the medical profession, and we have no doubt that both classes will derive great benefit from studying it and following its precepts.

The introduction gives a concise account of the history of vocal culture and the theories of the origin of language, which is followed by a consideration of those acoustic laws the knowledge of which is necessary to the understanding of vocalism.

The second chapter contains a description of the anatomy of all the organs taking part in the production of the voice, both in singing and in speaking; and the third chapter is devoted to the consideration of the physical action of these organs. This comprises a description of respiration, the vibrating elements (vocal bands), the resonance apparatus, compass of the voice, and the circulatory apparatus. Under the latter head considerable space is given to the explanation of the formation of vowels and consonants. This is the only part of the book which is not quite satisfactory, and which shows that the author has not sufficiently sifted the various theories of authors whom he quotes on the subject.

The chapters on vocal culture and hygiene of the voice, which form the second part of the book, are fully equal in excellence to the first chapters. In them practical hints are given how to manage the different organs so as to obtain the greatest volume and most pleasing *timbre* of voice, both in singing and speaking, and how to avoid overstraining and consequent deterioration of the voice. In the last chapter the author takes occasion to warn singers and orators against the bad habit of cold drinks during the exercise of the voice, and especially against the use of so-called voice-lozenges and nostrums, most of which, although they may have the effect of momentarily improving the voice, will certainly be harmful if indiscriminately used. The wood-cuts which embellish this book are very good, and the print is clear and distinct, giving it externally a very pleasing appearance. C. S.

THE PATHOLOGY AND TREATMENT OF VENEREAL DISEASES. By FREEMAN J. BUMSTEAD, M.D., LL.D., etc. Fourth Edition, revised, enlarged, and in great part rewritten by the author and by Robert W. Taylor, A.M., M.D. H. C. Lea, 1879.

Since its first appearance Bumstead's work on syphilis has been a favorite with the profession, achieving a success which was deserved by its straightforward clinical treatment of the subject. The cases of gonorrhœa and of syphilis which in the hands of the rising generation of American physicians have had cause to call Dr. Bumstead blessed, would constitute a legion. However valuable the previous editions have been, the present is, to our thinking, decidedly of more worth. An air of completeness—of having had garnered into its pages all the best fruit of the world's experience and research upon the subject of which it treats—has been given to the book, without in any way detracting from the peculiarly practical value of previous editions. None the less clinical, the treatise seems much more cosmopolitan. The possession of old editions will be no excuse to the progressive physician for not purchasing this edition, and we predict for it a very speedy sale. We congratulate Dr. Bumstead on the wisdom which led to the selection of Dr. Taylor as colleague, and we sincerely congratulate the two co-workers upon the results of their labor.

PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By GEORGE HENRY FOX, A.M., M.D. Parts III. and IV.

The diseases represented in these fasciculi are *fibroma pendulum*, *varicella*, *zoster pectoralis* and *lumbalis*, *eczema universale*, *leucoderma*, *chromophytosis*, *favus capitis* and *corporis*, *eczema cruris*.

In our notice of the first two parts of this work we expressed our opinion with regard to the inadequacy of the photograph as a means of representing diseases of the skin. But, while we do not modify what we then said with regard to photography, we desire to emphasize our admiration of the success with which Dr. Fox has contended with his intractable process. The plates before us are all good, and in that of *eczema universale* a very good notion is given of this affection, which is one difficult to delineate by any method. It is to be desired, however, that the colorist should enliven his pallet with some brighter pigments. The generally-prevailing vinous tint of almost all the affections is too gloomy to be natural. We regret that Dr. Fox has chosen to give the name "chromophytosis" to such a well-known disease as tinea versicolor.

A GUIDE TO SURGICAL DIAGNOSIS. By CHRISTOPHER HEATH, F.R.C.S., Holme Professor of Surgery in University College, London, etc. Philadelphia, Lindsay & Blakiston, 1879. 12mo, pp. 214.

This small volume is offered to the medical profession with the view of aiding the clinical observer in the art of note-taking. With the object of systematizing the labors of the note-taker, the first chapter is devoted to a series of forms to direct him in the order of his inquiries and observations. These forms, the author tells us, were arranged by Mr. Godlee when Surgical Registrar of the University Hospital, London, and are now in use in that institution; they are very complete. The rest of the work is devoted to surgical diagnosis proper. The author divides the human body into anatomical regions, and gives the chief surgical disorders belonging to each, with the most prominent characteristic symptoms of each disorder, and occasionally a few words on the treatment, only, however, where its results affect the diagnosis. The author disclaims any intention of discussing either pathology or treatment in this work, and, with the exception above noted, adheres closely to his plan.

The book is likely, in our opinion, to have but a limited field of real usefulness, as works of this character are apt to lead to error in the hands of the novice, and are of no use to the active student, whose mind is kept well stored with knowledge derived from more thorough and comprehensive works.

As a résumé which can be read easily in a few hours, it may be of value to the forgetful, and also to the general practitioner, who is obliged occasionally to diagnose surgical disorders. The forms for notes contained in the first chapter are valuable.

Aside from its design, the book deserves strong commendation for its clear and concise language, and for its excellent classification.

E. R.

NEW ORLEANS MEDICAL AND SURGICAL JOURNAL FOR AUGUST, 1879. ON THE TREATMENT OF YELLOW FEVER. By JOSEPH JONES, Professor of Chemistry and Clinical Medicine, Medical Department, University of Louisiana, etc. Being extracts from clinical lectures delivered in the Charity Hospital, January 29th and February 5th of 1879.

This is a valuable contribution to the therapeutics of yellow fever. It is based upon wide experience and thorough scientific acquirements. We think, however, that in the application of the latter the author has not been always happy. He displays a familiarity with the ways of the yellow-fever poison certainly enviable, but not warranted by what we believe to be the real state of our knowledge in this matter.

For the use of an emetic at the beginning of the disease he has not the support of the majority of practitioners. Carbonic acid, quinine, careful nursing, a diet "light but nutritious, in small quantities, and with great caution during the first four or five days of the disease," are prominent features of his plan of treatment. He treats fully of the physiological action of cardiac sedatives, and finds reasons for their administration. We have noticed that the supporters of this mode of treatment generally use very small doses, and for a short time. Perhaps it is for this reason that they seem to do no harm. The effects of cold baths have not been thoroughly tested; but the author tells us that the experience of the late epidemic would tend to discountenance their use. He favors the employment of sulpho-carbolate of sodium as an antizymotic. Cold injections are recommended for the reduction of temperature and to combat the suppression of urine. J. G.

COMPARATIVE PATHOLOGY OF MALARIAL AND YELLOW FEVER. By JOSEPH JONES, Prof. of Chemistry, etc. An abstract from the Proceedings of the Louisiana State Medical Society, April, 1879.

This paper contains statistics of the yellow fever in New Orleans as far back as 1778,—the more complete records dating from 1822; also charts of the temperature, humidity, and the rainfall.

We are not able to confirm the conclusions as to the pathology of the disease so positively expressed by the author. Granting the histological changes described by him to be facts, we find too much that is hypothetical in his endeavors to connect the symptoms with the lesions. The latter we have not been able to confirm in our investigations. In place of the marked fatty degeneration described by the author, we have only found a parenchymatous inflammation (Virchow) of the liver and kidneys. We believe that he overlooks entirely what is a prominent feature of this cloudy swelling, as it shows itself in thin sections of the liver, namely, the increase of connective-tissue cells,—formative irritation. We have also failed to find the fatty degeneration of the cardiac muscle so much insisted upon by the author. He enters into full details of the histological changes, and presents the whole subject in a carefully written contrast with malaria. J. G.

A SYSTEM OF MIDWIFERY. By WILLIAM LEISHMANN, M.D. H. C. Lea, 1879.

It will be remembered that the previous American edition was edited by the talented

Dr. John S. Parry, of this city, whose early death was such a loss to our aggregate obstetrical talent. The present edition has been revised by Dr. Leishmann himself, the additions made by Dr. Parry having been retained.

GLEANINGS FROM EXCHANGES.

Relative Action of Duboisia and Atropia.—Drs. Ringer and Neale (*Practitioner*, October, 1879) administered, by the mouth, a dose of sulphate of duboisia, and carefully noted the symptoms, and then, on a subsequent day, gave a corresponding dose of sulphate of atropia. On one occasion they gave two doses of $\frac{1}{120}$ grain of sulphate of atropia at an interval of two hours. On five occasions they gave $\frac{1}{120}$ grain. Duboisia, they find, produces identically the same symptoms as atropia, but is far more powerful than the latter. The symptoms begin in about half an hour, and reach their height in about two hours. After $\frac{1}{120}$ grain there occurred great dryness of the mouth; dilatation of the pupils; much giddiness, almost preventing walking, and increased by exercise; slight drowsiness and rambling; great weakness, so that the limbs felt heavy and were obviously raised with considerable difficulty,—indeed, the patient could hardly feed herself, and her grasp was very weak. There was flushing of the face, and, on one occasion, patchy, erythematous redness, the skin at these places being rather swollen and hard. The pulse became much fuller and rather slower. These symptoms lasted about seven or eight hours. The same dose of atropia only produced slight subjective dryness of the mouth. The relative power of duboisia and atropia in man is just reversed in the case of frogs.

Action of Various Substances on the Biliary Secretion.—Prof. Rutherford has recently republished a number of papers on this subject, on which the *Lancet* comments. More than fifty drugs were examined, among which calomel occupies the foremost place. The action of this drug has been very generally regarded as that of a stimulant to the liver, leading to an increase in the quantity of bile,—a view that was founded in part on its purgative action, and in part on the green tint that it frequently confers upon the fæces of children to whom it has been administered. Prof. Rutherford's experiments show clearly that this is incorrect, and that whilst calomel, in doses of ten grains, five grains, or two grains, several times repeated, when placed, without bile, in the duodenum of a fasting dog, produces a purgative effect, varying with the dose, it, so far from increasing the secretion of bile, usually diminishes the secretion, just as when any other substance that is not a hepatic stimulant—*e.g.*, magnesium sulphate—is administered. No difference is observed in the effect even when calomel is mixed with bile and then introduced into the duodenum. Calomel, then, has no power to increase the biliary secretion; but it is worthy of note that mercuric chloride, or corrosive sublimate, is a powerful hepatic stimulant in the dog, and the question immediately arises whether calomel may not be in part converted into corrosive sublimate by the action of the acid gastric juice. To this question, however, Prof. Rutherford is enabled to give a very decided negative answer, and the purgative action of calomel must therefore be attributed to its stimulant action on the glands of the intestine. The important practical application follows, that if it be required both to excite the activity of the intestinal glands and to augment the secretion of bile, calomel, with a small admixture of corrosive sublimate, should be employed. Podophyllin, aloes, colchicum, ipecacuanha, colocynth, dilute nitric acid, sodium benzoate, and salicylate are among the more powerful hepatic stimulants, though they act in various ways; some, like podophyllin, apparently affecting the intestinal glands equally with the liver; others, like ipecacuanha, affecting the liver almost exclusively; and there are many purgatives which owe their drastic power, not to their action on the liver, but to their action on the intestinal glands, as in the case of scammony, Rochelle salt, and manganese sulphate.

Experimental Study of Disinfectants.—The term disinfectant is applied by Dr. Notter (*Dub. Jour. Med. Sci.*, September, 1879) only to agents which destroy by chemical action not only the decompositions which are causally connected with the presence of organisms, but the organisms themselves. In his experiments putrid-beef infusion swarming with bacteria was treated with a number of different disinfectants, with the following results. Chloride of lime destroyed the putrefactive odor and the bacteria themselves. Burnett's fluid acted similarly, but a slight odor remained. Carbolic acid and phenyle subdued the offensive odor, but the bacteria remained active. "Sporokton" (a clear fluid, smelling strongly of sulphurous acid, and containing one hundred and fifty grains zinc chloride to the ounce and about eighty times its volume of sulphurous acid) slightly subdued the odor and diminished the activity of some of the bacteria. "Terebene" (composed of oil of turpentine digested with a small quantity of oil of vitriol) acts about the same as sporokton. "Sanitas" (a hydrocarbon derived from the resinous exudation of eucalyptus globulus) acted in the same way, but the activity of the bacteria suffered less change. Permanganate of potash was hardly as good. "Eureka" (supposed to be a strong solution of chlorinated soda) had almost no effect. Dr. Notter considers chloride of lime the best disinfectant, and says that to get its full effect it should be dissolved in water, and not used in the form of powder.

GLYCERIN IN THE TREATMENT OF HEMORRHOIDS.—In a communication to *The Practitioner* for October, Dr. David Young, of Florence, advises that for external piles the part should be bathed thoroughly with warm water and Castile soap, and that equal parts of the compound gall-ointment and extract of belladonna should subsequently be applied; where there is pain this should be reapplied every two or three hours. In internal piles the object of treatment is twofold,—(*a*) to relieve congestion of the portal circulation, but more particularly to correct the sluggishness which leads to it; and (*b*) to soothe the irritated parts. In well-marked piles some relief may be gained by the use of the so-called "hepatic stimulants," podophyllin, etc. But glycerin is more beneficial. It may be given in doses of a dessert-spoonful twice daily, and accompanied by a laxative, as the following:

℞ Sulphuris, gr. x;
Potassii sulphat., gr. x.
M.

To be taken at bedtime.

Rapid relief follows the use of this combination in cases where constipation is slight. Where there is more sluggishness in the bowel, the following pill has done very well in Dr. Young's hands:

℞ Hydrarg. bichlor., gr. $\frac{1}{30}$;
Strychniæ, gr. $\frac{1}{30}$;
Ext. belladonnæ, gr. $\frac{1}{3}$;
Quiniæ sulph., gr. j;
Ext. aloes, gr. $\frac{3}{4}$.
M. Fiat pil. One to be taken at bedtime.

Sometimes, in addition to the glycerin and laxative, the following lotion is found useful:

℞ Liquor plumbi subacetatis, ʒij;
Lactis, ℥ii;
Aquæ fervente, ℥i.
M.

The benefit derived from the glycerin is certainly not due to any aperient effect which it possesses, for it often acts the other way.

Dr. Young says, also, that aloes, when combined with belladonna and quinine, or belladonna and nux vomica, rarely causes any trouble in the rectum. He urges the free local use of cold water immediately after each stool. When hemorrhoids are inflamed, warm water is more agreeable; but when chronic, cold is best. A slight eversion of the bowel takes place in defecation, and the hemorrhoids come down with it. If paper is used, the sensitive surface shrinks back, carrying some of the fæces with it, to lie in contact with and irritate the piles. If, however, a sponge is used, thorough cleansing is insured.

[The most extraordinary results in internal piles often follow injections and retention in the rectum after each passage of a half-ounce to an ounce of a saturated solution of chlorate of potassium with a few drops of laudanum. Of course the usual systemic treatment must be carried out; and the free use of water-injections after the passage, but before the chlorate of potassium, is very serviceable. —H. C. W.]

COTO BARK IN THE DIARRHŒA OF PHTHISIS.—Dr. J. Burney Yeo (*Practitioner*, October, 1879), as a result of the experience of two years, is convinced that in coto bark we have a remedy which will help us to control the grave and exhausting attacks of diarrhœa which occur in the more advanced stages of phthisis. It is important to give the drug in proper combination. Given in pill form or with mist. cretæ, it appears to be inert. Dr. Yeo has the following mixture prepared for his use:

℞ Fluid extract of coto, ♏lx;
Compound tincture of cardamoms, ♏lx.

Mix together, and triturate slowly with mucilage of acacia three drachms and simple syrup two drachms; finally, add water to six ounces. A tablespoonful of this mixture, containing five minims of the coto extract, is a dose. In this form it is an opaque mixture, with a not unpleasantly warm and aromatic taste. Dr. Yeo has usually found two or three doses of this mixture arrest or check the severest forms of phthisical diarrhœa.

THERAPEUTICS OF HYOSCYAMIN.—In an article on the action and uses of hyoscyamin (*Lancet*, vol. ii., 1879, pp. 503, 540), Dr. Prideaux concludes:

1. That in most cases of mania, or where there exists great excitement of an aggressive and destructive character or rapidity of movement and speech, the use of the drug is the most effectual and rapid means of exercising that form of restraint which has been termed "chemical restraint."

2. That in cases of acute mania it will produce sleep and quietude when all other drugs have failed, and is one of the most rapid and reliable narcotics we possess.

3. That in the treatment of the epileptic status in epileptic mania it diminishes the number, frequency, and severity of the attacks, especially if its administration be extended over some time.

4. That in delusional insanity, especially the mania of suspicion and other forms of mania where the delusions are varying and changeable, it has a decided action in producing such an altered condition of the cerebral status that a condition which has been termed "physiological mania" results, and this so eclipses the former delusions and hallucinations that they are forgotten and the mind becomes clear; while, if the subjection to the influence of the drug be continued, it ultimately leads, under favorable circumstances, to a permanent condition of quiescence and restoration to a healthy state of mind.

5. That in chronic dementia, associated with destructive tendencies, bad habits, and sleeplessness, the condition of the patient much improves after a continued course of small doses of the drug.

The disadvantage that has occurred in its use, and which has to be guarded against, is the dryness of the tongue and pharynx that occurs, especially after a prolonged administration. This has been thought to contra-indicate its use in cases of artificial feeding; but, provided the tube be dipped into an oily liquid before passing, it will not be found to cause any inconvenience. The attacks of vomiting that have occurred in some cases, after an administration of some weeks, necessarily lead to a discontinuance of the drug. Vomiting occasionally occurs after one dose, even a small one, and in two cases mentioned by Dr. Lawson hæmatemesis took place. Where rapid and sudden action of the drug is feared in feeble cases, it is better to administer it with the food.

TINCTURE OF HAMAMELIS.—A number of letters have appeared in the *Lancet* of late relative to the virtues of hamamelis (witch-hazel). One correspondent has used the fluid extract, so called ("Pond's extract"), in ten- to fifteen-minim doses in uterine hemorrhage. Another believes it to be one of the most valuable of hæmostatics; he uses it freely in menorrhagia and hæmoptysis. Dr. Maxwell says that a larger dose than two or three minims of the tincture may produce headache; while Dr. Shorthouse says he would take a drachm at a time without hesitation. Dr. Bartlett, the well-known pharmacologist, writes as follows:

"The late correspondence in the *Lancet* respecting the tincture and extract of hamamelis (witch-hazel) shows that a considerable interest attaches to the medicinal properties of these preparations. A note of the essential distinctions in the chemical composition of the tincture as compared with the extract may be of some value to your readers, and may serve to assist in pointing out the proper application of each. The extract is so remarkable that I have devoted a great deal of attention to its analysis, and I find the difficulties encountered in the endeavor to separate the components have as yet prevented me from being able to announce precisely the quantities of the proximate principles which produce the specific remedial actions now so well recognized throughout America.

"I find, as several of your correspondents have mentioned, that the American extract in best repute is that known as 'Pond's extract.' This is a very curious preparation, and contains a powerful astringent principle, which is either really volatile at a low temperature, or is carried over in distillation by the vapor of water. There is also an extremely diffuse volatile oil and an oleo-resin. I can trace a strong resemblance in a portion of the extractive matter to that of the arnica montana, and I believe I shall confirm the detection of a terebene. The properties are therefore mainly astringent and antiseptic; but I am credibly informed that the extract of witch-hazel is largely used as an anodyne. The volatile astringent properties appear specially valuable, as, with the exception of pyrogallic acid, which is only volatile at a high temperature, I am not aware of any other volatile astringent of nearly the same power. This property may render the extract of hamamelis of peculiar value for inhalation.

"The crude extract, such as I have been able to procure in this country, contains a considerable quantity of coarse resin with tannic acid, together with a useless superabundance of caramel, the volatile oil being only sufficient to give the characteristic odor. The tincture retains a larger proportion of volatile oil than is found in the crude extract, but not so much as in 'Pond's extract,' the astringent principle being mainly gallic acid, which is present in a small proportion."

HYPODERMIC INJECTION OF COFFEE IN OPIUM-POISONING.—Dr. W. W. Cochran (*Michigan Med. News*, 1879, p. 249), in a case of poisoning (?—ED.) by ½ grain of morphia, injected thirty drops of strong coffee hypodermically, with recovery. In another case, where an opium-eater had taken, within four hours, five grains of morphia with four ounces of chloral, twenty drops of strong coffee injected into the forearm, and repeated twice within half an hour, restored the patient.

THE USE OF THE VOLSELLA IN GYNÆCOLOGY.—Dr. Alexander Simpson, in an interesting article (*Edinburgh Med. Jour.*, October, 1879), deplores the absence of all mention of this instrument in most current works on diseases of women, but quotes the remarks of Dr. Goodell, of this city, on the method of its use. Dr. Simpson describes the most convenient form of this instrument, and gives a full-size figure of it. It should have three small teeth and a catch on the handle. As regards its use, this may easily be managed when the cervix uteri is to be handled, since, as is known, this part of the organ is very insensitive. When either the anterior or the posterior or both of the lips have been laid hold of, first the cervix and with it the whole uterus can be pulled forward or backward, to the right or left, but above all it can be dragged downward. The amount of force required to do this on the living subject is exceedingly slight.

The uses of the volsella are to bring the parts within the range of vision and within the reach of touch. We thus get a better impression of the size of the uterus, its position, its relation to pelvic tumors, and of the size, situation, and circumstances of the ovaries and other parts around the uterus.

It will be found useful (1) in operations on the interior of the uterus, in introducing stem pessaries, tents, medicated arrows, or the sound, armed with cotton wadding and charged with various medicaments; also in removal of foreign bodies, neoplasms, etc., from the body of the uterus with the finger or the curette; (2) for the application of the elastic or Esmarch ring, a rubber umbrella-ring carried over the volsella and neck of the uterus to enable bloodless operations to be performed; (3) in operations on the vaginal portion of the cervix; (4) in operations for rectifying misplaced uteri; (5) in operations upon the vagina, for fistulæ, etc.; (6) in intra-peritoneal operations.

The physiological contra-indications to the use of the volsella are menstruation and pregnancy. The pathological contra-indications are neoplasms rendering the tissues of the cervix peculiarly friable or hemorrhagic, and inflammatory changes, not merely acute, but chronic, especially in the cellular tissues.

TREATMENT OF PHTHISIS BY ARSENIC.—Dr. Wm. H. Pearse (*Med. Press and Circular*, p. 348, October 22, 1879) gives the following formula, which he has found useful in some two hundred and fifty cases:

Liq. arsen. hydrochlor., ♍ lxiv;
Quiniæ sulph., gr. viij;
Acid. hydrochlor. dil., ʒiij;
Syrup. aurant., ℥j;
Infus. chirettæ, ad ℥viij.

This mixture equals sixteen doses, of which one was taken three times a day, after meals. In many cases ten minims of sea-water were added to each dose; in others, two grains of sulphate of manganese. The patients were directed to continue the medicine during six weeks, then to allow an interval of a week, and again to resume treatment. Although some patients have taken arsenic in this way during periods of a year or more, in no instances have any outward symptoms shown. About fifty of the cases took 1-120th of a grain of arsenic (acidum arseniosi) in pill, combined with three grains of the powder of the dried vesicles of the fucus vesiculosus; the vesicles were collected in September, in which season they are full of a gelatinous secretion.

A NEW SUSPENSORY BANDAGE.—Mr. J. B. Cross, a student at Guy's Hospital, has devised a very simple and at the same time cheap and serviceable suspensory bandage. It consists of a bandage round the waist, to the middle of the back of which is tied a strip of flannel four inches wide, which is brought round the perineum to the front and fastened to the band; in this is a slit for the penis. Just behind the penis the middle of another strip of flannel is fastened across the first, and one end is brought up on each side and rolled round the band encircling the waist. This gives a support to the scrotum which has no tendency to slip; it can be adjusted very accurately, need never be loose or too tight, and at the same time is comfortable to wear. Of course other materials than flannel can be used, and with advantage, for flannel is too irritating for most people's skin. When modified in this way, it will no doubt prove very efficient.—*Lancet.*

THE GLOBULAR RICHNESS OF HUMAN BLOOD.—According to some observations of Drs. E. G. Cutler and E. H. Bradford, of Boston (*Journal of Physiology*, vol. i. No. 6), there is considerable variation in the globular richness of the white and red corpuscles of the blood under normal physiological conditions. Their observations summarized are as follows:

1. The globular richness of the blood varies greatly in different parts of the circulatory system. These local variations are dependent upon the functions of the tissues or organs through which the blood passes, and may be supposed in the main to counterbalance each other.

2. The globular richness of the blood is also affected by general causes, such as the amount of fluid abstracted from the blood and by a deprivation of the regular supply of fluid to the economy.

3. The globular richness is subject to daily variations.

4. There is a decrease in the globular richness of the red corpuscles during fasting, and an increase after a meal.

5. There is probably an increase in the globular richness of the white corpuscles during a fast, and a decrease after a meal.

6. There is a variation of the globular richness in different seasons of the year.

7. There is a slight variation in the globular richness from one week to another.—*New York Medical Journal.*

TO PREVENT HEADACHE FROM TINCTURE OF IRON.—During the administration of the tincture of the chloride of iron, functional derangements of the stomach and liver often arise, with furred tongue, impaired appetite, headache, etc. These symptoms rapidly disappear upon adding one-half grain of the chloride of ammonium to each minim of the tincture. This combination is useful in cases of heart-disease accompanied by anæmia and debility.—*Boston Med. and Surg. Jour.*

THE DIRECT APPLICATION OF OXYGEN TO ULCERATING SURFACES.—Dr. R. H. Goolden (*Lancet*, October 29, 1879) had a patient suffering from phagedenic ulceration of the pharynx in whom inhalations of oxygen produced a very rapid improvement, the destructive process rapidly staying and healthy granulations forming in a very short time. Dr. Goolden suggests that the oxygen may be prepared without heat by mixing permanganate of potassium and binoxide of hydrogen. The latter material must be kept at a low temperature. The compressed oxygen as sold in iron bottles may also be used.

MISCELLANY.

THE NEW YORK INSANE ASYLUMS.—The committee appointed by the New York Assembly, at the petition of Dr. Hammond and others, to investigate the State insane asylums, has presented a report stating that the petition "has not been substantiated in any of its allegations by any existing state of facts.

"This attack by medical men on the scientific work of a State institution," the committee says, "evinces an ignorance and a spirit of recklessness unworthy of a great liberal profession, and should be condemned by all who have the interests of science and humanity at heart. The assailment of the great public charities of the State in such a reckless manner should be exposed, not simply because it is a wicked use of the sacred right of petition to the injury of individuals, but it also creates public distrust in the administration of the State charities, and fills with unnecessary pain the hearts of those who are obliged to commit their loved ones to the care of these institutions, and, further, because it tends to degrade the dignity of the State."

It is consolatory to think that even under the beneficent rule of "Cæsarism" jobbery may be as rife as in a republic. The Hôtel-Dieu of Paris, built during the palmy days of the late emperor, cost $6,000,000. It only contains six hundred beds, is not imposing or attractive in architecture, and is badly arranged for light and ventilation.

PHARMACOPŒIAL REMEDIES.—"Pharmacopœia" writes thus to the editor of the *New York Medical Record:* Sir,—It is generally expected that regular physicians will use the remedies or formulæ of the Pharmacopœia as far as they will readily meet the wants of patients, and especially in preference to secret and advertised medicines. But how often is this neglected, even among the Nestors of the profession,—those whom we delight to admire and honor! In a late work on clinical medicine by a standard authority, for constipation we find recommended Lady Webster's dinner-pills, *Grains de Santé*, Tamar Indien, and other like remedies, as if the Pharmacopœia did not afford equally good and even better laxatives. The so-called Lady Webster's pill is that of aloes and mastic of the U. S. Pharmacopœia, which was not suggested by Lady Webster, but merely preferred by her. The formula is nearly as old as that of the aloes and myrrh pill, or pil. rufi, which is nearly two hundred years old. The object of the mastic is to retard the solution of the aloes in the small intestine, and thereby cause it to act upon the large bowel. The pill is a good one, but should not be called Lady Webster's, at least by physicians, for that leads to the belief that Lady Webster was a better prescriber than the doctor.

The recommendation of the *Grains de Santé* is in still worse taste. They are composed of aloes and jalap, and are very carelessly made indeed, and apparently not of the best materials. The combination seems a strange one, but is an excellent one when both the small and large bowels are to be acted upon. One grain of extract of Socotrine aloes and one of resin of jalap makes an active pill for most persons; one grain of the former and two of the latter is far more powerful in its action than most persons would suppose. They can be supplied by apothecaries, either silvered or sugar-coated, and made of purer articles, at a less price than the imported imperfect pills. Tamar Indien is apparently composed of resin of jalap in fig-paste: it is very expensive indeed. The Friedrichshall, Pullna, and Hunyádi waters are little more than solutions of Epsom and Glauber salts, and should not be prescribed for poor persons at least, as their chemical composition is well known, and a prescription can easily be given for these inexpensive articles, with great saving to persons in moderate circumstances.

CATALOGUE OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY'S LIBRARY.—This library, which now comprises upwards of thirty-one thousand volumes, has recently been catalogued at an expense of four years' labor. According to the *Lancet*, the work is drawn up in a scientific and scholarly manner, and may be taken as a type of the manner in which all such works should be compiled. There are three large volumes, two devoted to an alphabetical list of authors, transactions, etc., and the third to an index-catalogue of subjects, one main (and novel) feature of the latter being the grouping of the works on each subject in strict chronological sequence. In a very interesting preface to the catalogue are contained the rules that have been followed out in the work of compilation, and from them many valuable suggestions to librarians may be gathered.

COMPARATIVE CONSUMPTION OF BEER IN DIFFERENT COUNTRIES.—The following particulars of the beer-producing and beer-drinking capacities of a few of the countries of the world have been obtained from a German authority. It may be mentioned that a hectolitre is equal to about 22 Imperial gallons, and a litre to 1.76 Imperial pints. The nation which stands highest in beer-production is Great Britain, which in 1876 turned out 47,000,000 hectolitres, and the consumption per head of population was 143 litres; Germany, production, 40,187,700 hectolitres; consumption, 94 litres; United States, production, 14,978,800; consumption, 38; Austria, production, 12,176,900; consumption, 34; Belgium, production, 7,942,000; consumption, 149; France, production, 7,370,000; consumption, 21; Russia, production, 2,210,000; consumption, 3. For the greatest consumption per head, Bavaria—which is included in the above estimate for Germany—holds the enviable, or unenviable, position of priority on the list, the average quantity consumed by each adult being 289 litres, or over 63 Imperial gallons, per annum. The smallest amount is that of Russia, above given.

WASP-STINGS.—Dr. S. T. Phillips gives the following case (*Lancet*): E. R., aged 69, was stung on the right thumb by a wasp. He saw her within ten minutes, and found her neck and face greatly swollen and black, her tongue filled the whole of her mouth, and her gums were so swollen as to protrude beyond her lips; she had lost all power of speech, was nearly insensible, and breathed with excessive difficulty. He drew her tongue out with a pair of artery-forceps, and made two free incisions on either side of the central raphé and one on each side of the gums. The bleeding was profuse; the swelling going down within a quarter of an hour, the patient could speak, and expressed herself better. He saw her four hours after, when she was perfectly well, except that her mouth felt sore.

FORMULA FOR PODOPHYLLIN.—Dr. Horace Dobell says that podophyllin, given in the following formula, is free from the danger of producing the disastrous effects which sometimes follow its administration in pill form:

℞ Podophylli, gr. ii;
Tinct. zingiberis, fʒii;
Alcoholis, ad f℥ii.—M.

Sig.—A teaspoonful in a wineglass of water at bedtime, every night or every second, third, or fourth night, as required.—*British Medical Journal*, v. i., 1879, p. 892.

A WRITER in the *Chemical Journal* says that the addition of one-fifth of glycerin to milk will keep it sweet for eight or ten days, provided the temperature does not rise above 68° F. By increasing the glycerin to one-third or one-half, the milk may be preserved for over a month.

THE METRIC "BOOM."—At the recent meeting of the British Medical Association, Professor Charcot, of Paris, is reported to have said, "It is not the language of our English confrères which prevents the wider circulation of their valuable works among us, but it is their Gothic system of weights and measures."

MILK OF SULPHUR AS A TOPICAL APPLICATION IN DIPHTHERIA.—Dr. Erskine Stuart (*Practitioner*, October, 1879) continues to urge the employment of this remedy. He rubs the sulphur up with a little water and applies it to the throat. He says that every case in which he has used this remedy has made a rapid recovery.

CASTANEA VESCA IN WHOOPING-COUGH.—Dr. Rodenstein, of New York, in the *American Journal of Obstetrics*, reports eight cases completely cured in from ten days to four weeks by this remedy. The extract of the dry leaves in one-drachm doses every four or five hours was used.

TO OBVIATE HEREDITARY TENDENCY TO DISEASE IN THE YOUNG.—"Wash them, air them, and iron them."

LACTIC ACID IN CYSTITIS.—Deeke finds that a one per cent. solution of lactic acid acts antiseptically on fermenting urine, and recommends a buttermilk diet, with injections into the bladder of a ½ to 1 per cent. solution of the acid.—*Buffalo Medical and Surgical Journal*, 1879.

SINCE the beginning of the present year the Paris Morgue has been used for practical demonstrations in connection with the chair of Legal Medicine. This teaching is almost unique, and attracts many foreign students. It would scarcely be possible to obtain elsewhere, in so short a time, a practical knowledge of the post-mortem appearances resulting from crime, but a month here would be almost sure to furnish the elements of a complete course of criminal necropsology. Besides the numerous bodies fished out of the Seine, subjects are brought hither by the police from all parts of Paris.—*Lancet*.

SUCCESSFUL TRANSFUSION WITH CHICKEN'S BLOOD—HEARTLESS INGRATITUDE.—Dr. L. L. Staton reports (*Maryland Med. Journal*, v. 391) a case in which he injected an ounce and a half of chicken's blood into the femoral artery of a man apparently dying from exhaustion after operation for stone. The result was that the patient went to sleep, and the foreign corpuscles filled his head with visions of chicken-broth. On waking, chicken-broth was lustily called for, and soon the "identical old hen" yielded to the stomach of her foster-son whatsoever of flesh she had gathered in her five years of earthly pilgrimage. Recovery.

DR. FREEMAN J. BUMSTEAD, the famous syphilologist of New York, died in that city on the 28th ult., of ascites.

DR. HENRY J. CHAPMAN has been selected by the Trustees of Jefferson Medical College to deliver the remaining lectures of the course of Physiology in that institution.

DR. MORRIS LONGSTRETH has been elected to the position of Visiting Physician at the Pennsylvania Hospital, vacated by the death of Professor Meigs.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 16 TO NOVEMBER 29, 1879.

KEENEY, C. C., LIEUTENANT-COLONEL AND SURGEON.—Relieved from duty at the Presidio of San Francisco, and assigned to duty in San Francisco, Cal. S. O. 142, Division of the Pacific and Department of California, November 15, 1879.

BAILY, E. J., LIEUTENANT-COLONEL AND SURGEON, Medical Director of the Department.—Granted leave of absence for one month. S. O. 157, Department of the Columbia, November 3, 1879.

KIMBALL, J. P., CAPTAIN AND ASSISTANT-SURGEON.—To return with the Command of Col. Merritt, Fifth Cavalry, to Rawlins, Wyo. T. S. O. 107, Department of the Platte, November 20, 1879.

HALL, J. D., CAPTAIN AND ASSISTANT-SURGEON.—His sick-leave granted him from Headquarters, Department of Texas, extended one month on Surgeon's certificate of disability, with permission to leave the Department of Texas. S. O. 266, A. G. O., November 25, 1879.

SMITH, R. E., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for four months from December 1, 1879. S. O. 250, A. G. O., November 15, 1879.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, DECEMBER 20, 1879.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON LACERATION OF THE CERVIX UTERI.

BY WM. GOODELL, M.D.,
Professor of Clinical Gynæcology in the University of Pennsylvania.

Reported by CHARLES W. DULLES, M.D., Surgical Registrar to the Hospital.

GENTLEMEN,—We have to-day before us a not infrequent sequela of childbirth. This woman has suffered long from obscure pains in the pelvis and loins, accompanied by a leucorrhœal discharge and a condition of mental depression which is often found when there is an unhealed laceration of the cervix uteri.

Laceration is an accident of labor, and may be due to premature rupture of the bag of waters which Nature intended should effect the gradual and safe dilatation of the os and cervix, so as to admit of the easy passage of the head of the child. I cannot, myself, but think that many cases of lacerated cervix are due to meddlesome midwifery. The physician comes, and, after waiting a while, thinks he will save his own time and the mother's by rupturing the membranes, as he knows this is almost always followed by a speedy expulsion of the contents of the womb. Sometimes, too, it is caused by the use of the forceps, or by the attempt to push the upper lip over the child's head, so as to hurry matters a little.

I have found, of all the women that come to me, about one in six have a laceration of the cervix; a proportion which indicates, I think, that too much interference in labor is no improvement on Nature's method.

Now let us see how this injury does mischief. When I draw down the womb, you see that the cervix has been torn across, and each edge is everted, just like the curling over of celery-tops when they are split before putting on the table. As a consequence, the delicate membrane lining the cervical canal is exposed, and, as the conjunctiva, when everted and exposed, becomes inflamed and purulent and often sets up further eye-troubles, so this membrane, rubbing against the vagina and receiving the impact of the male organ in coition, becomes irritated and inflamed. With this there is an accession of blood to the part, and the process of involution is stopped.

Now, how shall we diagnose such an injury? It is not as generally done as it should be. Ninety-nine out of a hundred physicians—no! to keep within bounds, I will say ninety out of a hundred—would call this an erosion or ulceration of the cervix, and treat it with caustic applications. Perhaps after a long while they would get enough cicatricial contraction to lead them to suppose it cured, only to see it return within six months. But, to prove what we have to deal with, I will seize each side of the os with a tenaculum and draw it downward. The edges now come together, leaving a fissure and hiding the raw surface you saw before. If you can thus make the erosion disappear you may be pretty sure you have a laceration of the cervix to treat.

In the present case we have what is called a stellate laceration,—a number of tears radiating from the cervical canal.

The operation in this case will consist of the removal of a wedge-shaped piece from each side of the fissure. The lower one will be done first, so as to avoid the difficulty which would be caused by the blood trickling down from the upper wound if the lower were left till after it.

And here let me give you another test of lacerated cervix. Sometimes in slight or in old cases you cannot tell for the life of you—that is to say, I at least sometimes cannot—whether it is really a laceration or not. Well, in such cases you will usually find on the cervix little cysts filled with a honey-like fluid; these are enlarged Nabothian glands, and from them you may know that the cervical canal has been everted in consequence of laceration, and your diagnosis is established.

In doing this operation I think the scissors are preferable to the knife, because the parts are vascular and erectile. The ones I prefer are the sickle-shaped scissors. I always try to remove the wedge of tissue in one piece, but am not always successful. In this case I think I cannot manage it, because the tissues are dense and friable. Occasionally a vessel may be cut and give some trouble by its bleeding; though it is less embarrassing than in operations for vesico-vaginal fistula, for you can pass a wire suture below the vessel, and, by having this drawn upon, control the hemorrhage very well.

Formerly I was in the habit of leaving a good space undenuded for the os to be formed,—"space for repentance," as the painters say. They say when you paint a picture you must not fill it all up at first, but leave some space for ideas that may occur to you later. So here I used to leave a large space for the os, for fear it would close up. But now I have found that if the os is too small I can easily make it larger; if it is too large it is hard to make it smaller: so I am not afraid to denude a large surface and bring the parts close together. This is done with silver wire sutures, passed with a short, curved needle, secured in a needle-holder. Usually I attach a loop of silk to the needle, and thread the wire through this, because then it passes more smoothly.

What will be the result of this operation? Why, that the woman's condition will be immediately improved. Her womb will diminish very much in size,—that is, I expect it will. It does not always happen, though in the great majority of cases it does. I know I have sometimes promised it and had the patient and myself greatly disappointed.

Now, if you will look at this cervix you will see it is greatly distorted, but when the stitches come to be taken out it will be a very good-looking one. You see that the laceration has now disappeared, and have another illustration of the easy way of diagnosing the lesion. There is no good excuse for failing in it; yet the mistake is often made. Indeed, the ignorance of diseases of women is much to be regretted. Let me tell you what a friend told me lately. He said he was called, in consultation, to see a lady in a town of from three thousand to four thousand inhabitants. He did not take instruments with him, and when he wished to make a vaginal examination he found there actually was not a physician in the town who owned a speculum.

Now I have all the sutures in, and will draw them up and secure them with shot. As I do this, a stream of water is thrown from a syringe, so as to wash away any clots that might adhere and prevent speedy union. Attention to such details often insures the success of an operation. In securing the stitches I know no objection to twisting them, but I think I can regulate the tension better by using shot, and that they are less irritating than the twisted ends of wire. I cut the wires off flush with the shot. And here I will give you a little hint about the use of scissors. When you are cutting wire, always cut with the heel and never with the points of the scissors,—unless you are using a borrowed pair.

The after-treatment of these cases is very simple. For forty-eight hours the urine should be drawn, to prevent its trickling over the cut edges. It is true bland urine does not irritate; but often the urine is acrid, and I prefer to be on the safe side. The bowels may as well be bound up for the same length of time, though it is not absolutely necessary.

What are the results of this operation? They are of the most successful. Of fifty-four cases I have done, I have not lost one. In one case, however, I had serious localized peritonitis, with phlegmasia dolens and abscess, which I attributed to the fact that the patient lay in the ward alongside of a surgical patient in whom erysipelas broke out. Fortunately, she got well.

I have failed of getting good union in only two cases,—once I do not know why, and once because a polypoid tumor forced its way out of the womb and tore open the wound.

My hour is now expired, and I must only say this, as a parting shot, that you ought now never to mistake a laceration of the cervix, nor be ignorant of the proper way of treating it.

ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGICAL ACTION OF APOMORPHIÆ HYDROCHLORAS.

BY EDWARD T. REICHERT, M.D.,
Demonstrator of Experimental Therapeutics, University of Pennsylvania.

Abstract from Inaugural Thesis, March, 1879.

(Continued from page 112.)

THE CIRCULATORY SYSTEM.

THE *Pulse.*—The influence exerted upon the pulse-rate by apomorphine, in both small and large therapeutic doses, when given subcutaneously, is to cause a primary increase, frequently amounting to half of the normal rate; this increase is followed by a diminution to the normal, or even, in some cases, below the normal. The increase of pulse-rate generally reaches its maximum either during or immediately after the stage of emesis. Seibert (*Archiv der Heilkunde*, 1871, pp. 522–548) found a rise in the pulse-rate, after vomiting, equal to one-third of the normal rate; between the acts of vomiting there was always a diminution, and when vomiting was not present the frequency of the pulse was entirely wanting. He therefore concludes that the increased pulse-rate was due to the emesis. After a careful research in this matter, I am compelled to disagree with the above observer's conclusion, for it is very obvious, from the results of eleven experiments made on normal animals, that the increased pulse-rate cannot be due to the vomiting. It can have no dependence whatever on this act, for the reason that the increase occurs not only when the vomiting is present, but also when even the symptoms of nausea and vomiting are entirely absent. It will also be observed that this increased pulse-rate occurs in rabbits, which cannot vomit. This fact alone would invalidate Seibert's conclusion. In my experiments on frogs I never observed any increase in pulse-rate.

In six experiments made on mammals with small subcutaneous injections I found an average increase of pulse equal to twelve beats per fifteen seconds, and in only a single instance did the pulse go below normal.

When the drug is given intravenously or in very large doses subcutaneously, the rise in pulse-rate in mammals is generally much more marked, while the subsequent fall is sometimes observed to go far below normal. In five experiments on mammals thus made, the average rise amounted to sixteen beats per fifteen seconds, the average fall below normal equal to seven beats per fifteen seconds.

An increase of pulse-rate may be caused by changes in blood-pressure, but from the results of my experiments on blood-pressure it will be seen that subcutaneous injections of apomorphia are powerless to affect pressure, if used in the same dose as was used in these pulse experiments. It is obvious, then, that the increase must be due to one or more of the following three possible causes: first, a stimulation of the heart; second, a stimulation of the accelerator nerves; third, a depression of the inhibitory nerves or centres.

In several experiments I destroyed the whole medulla oblongata. Artificial respiration was kept up. By thus destroying this great centre the vagi centres are annihilated, as well as the fibres of the accelerator nerves which run through the medulla, destroyed. This operation severs the connection of the heart with the central nervous system: therefore any change in pulse-rate that would occur would be attributable to a direct action of the drug upon that organ. Under these circumstances no increase of pulse-rate occurred. It has been clearly shown in another portion of my paper that apomorphia is a cardiac depressant. It is obvious, then, that the increased pulse-rate cannot be due to a stimulation of the heart or its ganglia. To determine whether the increase was due to a stimulation of the accelerator nerves, a rabbit was taken and the superior thoracic (inferior cervical) ganglion, through which all the accelerator nerves pass (Schiff), was excised; to make certain of a successful operation and a correct result, the accelerator nerves were cut in the cervical region, thereby making doubly sure that there was no influence exerted through these nerves.

It was found under these circumstances that the increase in the pulse-rate occurred as it does in the normal animal. There remains, then, but one other channel through which this increase could be produced,—*i.e.*, the vagi nerves. I therefore made six experiments in which those nerves were severed.

The parallel results of all my experiments in which the vagi nerves were cut points beyond any possible doubt to the cause of the increased pulse-rate being by a direct action of the drug on these nerves or centres. The increased pulse-rate is clearly shown to have no dependence whatever on the emesis; the increase never occurs after separation of the heart from the central nervous system; the increase occurs after section of the accelerator nerves and extirpation of the superior thoracic (inferior cervical) ganglion; the increase never occurs after section of the vagi nerves. It is therefore proven that the increased pulse-rate is due to an action through the vagi nerves. It is very obvious, then, that there are but three possible ways in which to effect this: 1st, a depression of the inhibitory centres; 2d, a depression of the inhibitory peripheries; 3d, a stimulation of the accelerator fibres of the vagus nerve. The increased pulse-rate cannot be an effect of changes in blood-pressure, because it occurs from small subcutaneous injections, which are powerless to affect the pressure.

To determine whether the increased pulse-rate was due to a depression of the peripheries of the inhibitory nerves, I made section of those nerves, and found a certain current which would cause a definite effect on the inhibition of the heart. Apomorphia was then given and the same current applied at intervals, when it was found that the peripheries were as sensitive to galvanization as they were previous to its administration. I also tested the central ends of the nerves, and found a current which would cause a definite effect in blood-pressure by the inhibiting action of the vagi apparatus on the vaso-motor centres, and found that after the administration of the drug the effect was as great as heretofore. Goltze has shown that inhibition of the heart can be produced by certain peripheral irritations. I therefore mechanically irritated the intestines of a number of frogs, and in some of them got complete inhibition of the heart. It has been shown by Goltze that this inhibition is due to an irritation of the inhibitory centres. It therefore seems probable that the increased pulse-rate must be due to a stimulation of the accelerator fibres of the vagus.

BLOOD-PRESSURE.

The elaborate series of experiments which I have made in reference to the action of the drug upon the blood-pressure exhibit singularly uniform results. The fact that most other observers have not obtained similar results must have been due to an impurity of the alkaloid used. The apomorphine used in my experiments was made by different German pharmacists, and the results were in all cases the same.

Seibert (*loc. cit.*) found a temporary lowering of the blood-pressure. He then injected the same quantity of pure water into the veins as was used to dissolve the apomorphine, and found a lowering of pressure almost as great. He therefore concludes that apomorphia has no effect. Neither Quehl (*loc. cit.*) nor Bourgois (*De l'Apomorphin*, Paris, 1874) obtained any perceptible effect. Harnach was the only one finding a distinct change, but leaves it unsettled as to how these changes are produced.

My experiments were all made on dogs, cats, and rabbits. In these animals the fall of pressure was immediate and distinctly marked from the effects of intravenous injections, even if the dose was very small. When the drug was administered subcutaneously, if a fall of pressure did occur, it was so slight as to be entirely insignificant. The reason of the non-effect on the pressure when the drug was thus given is clearly shown hereafter. Nine experiments were made upon the blood-pressure of normal animals, with identical results; one of these experiments is appended in detail:

Exp. LXXIV.—Dog.

Time.	Dose.	Pressure.	Remarks.
10.47½ A.M.		205–220	Manometer attached to right femoral artery. *Injections made into the corresponding vein.*
.47¾	.01 gram.		
.48¼		195–210	
.48½		225–230	
.48¾		220–225	
.49½		205–215	
.49⅞		185–190	
			Clot in canula.
.58		185–190	
.58½	.01 gram.		
.59		180–182	
.59¼		175–180	
11.02		170–	Clot.

In seven of the experiments there was a primary and secondary fall of pressure, separated by a more or less noticeable rise. It seems evident from this fact that more than one influence is active in the production of this triple change of pressure. A fall of pressure occurring immediately after intravenous injections of any drug is indicative of an action directly upon the vagi nerves or heart-muscle. A series of experiments upon animals with cut vagi were therefore undertaken. In these experiments, which were six in number, the primary fall of pressure either did not occur or was very slight; the secondary rise of pressure was more marked, and, indeed, in two instances completely overshadowed any tendency to a fall, so that the pressure was continually retained above the normal. It is plain that, whatever part the vagi may play, other influences are operative also.

Three experiments were then made upon the excised hearts of frogs, and it was found that they became paralyzed in a very brief time after immersion in a solution of apomorphine. In three observations upon animals in which the heart was isolated by section of the vagi nerves and cervical spinal cord there was a continuous decrease of pressure. It is here shown that, although the vagi nerves were cut, the fall is continuous from the first, and that the involvement of these nerves in the production of the primary fall of pressure is only apparent, and was due to the effect of their section on the respiration,—a conclusion corroborated by the fact that in curarized animals in which artificial respiration was maintained the fall occurred as usual after section of those nerves. The direct influence on the heart is further shown by the action of subcutaneous injections, which are powerless to affect the pressure if given in the same or even considerably larger doses than were given intravenously. Thus, I found that .005 gram. injected intravenously would cause a marked fall, yet .06 gram. injected subcutaneously lowered the pressure only .008 metre, and an injection of .01 gram. caused but a lowering of .005 metre. I append in detail this last experiment:

Exp. CV.—Dog.

Time.	Dose.	Pressure.	Remarks.
10.21 A.M.		198–202	
.21¼	.01 gram.		*Subcutaneous injection.*
.22		195–200	
.23		195–200	
.24½		200–205	
.25		195–202	
.26½		193–198	
.27½		205–210	
.28		205–210	
.29		205–208	
.29¼			Clot in canula.
.30		195–200	

The very evident reason why a fall does not occur after subcutaneous injection is because but a small quantity reaches the heart at once, it being rapidly diffused throughout the circulation, while when it is given intravenously the whole dose is thrown immediately upon the heart and the paralytic action is at once manifest.

In four experiments to determine the secondary change and rise of pressure, it was found that after section of the spinal cord in the cervical region the rise did not occur, thus showing that it was due to an action on the vaso-motor centre in the medulla. The fall of pressure caused by apomorphia must be due to a direct depressant action on the heart, and the temporary rise to a stimulation of the vaso-motor centre in the medulla, which is sufficiently powerful to supersede for a time the opposing action on the heart.

(To be continued.)

ANASARCA AS A SYMPTOM OF DEFICIENT VASO-MOTOR TONUS.

BY EDWARD T. BRUEN, M.D.,

Physician to the Philadelphia Hospital, Acting Demonstrator of Clinical Medicine, and Lecturer on the Pathology of the Urine in the University of Pennsylvania.

Read before the Philadelphia County Medical Society, November 12, 1879.

I WISH to invite the attention of the Society to three cases which illustrate a most familiar ailment, but at the same time they have afforded me much food for reflection as to their pathology. I submit them in the hope that some others may be able to shed additional light upon the subject.

The theory which I propose to offer in explanation of these cases may appear to some visionary, but I am sure that reflection will convince the most sceptical that disorder of the vaso-motor nervous system is alone capable of explaining many obscure symptoms otherwise totally unfathomable. We cannot investigate in our patients the state of the circulation by means of the apparatus employed in the physiological laboratory, but on that account it is all the more important to secure all the available collateral evidence on the subject. Cases somewhat similar to my own have been reported, but they are not numerous, and I do not recall any in which anæmia has not been present. In the cases I shall relate, the opposite state of the blood was unquestionable.

Without further preface, then, let me relate the histories of my cases.

The first, G. W., I saw in June last: he had been working as a watchman on the wharf near South Street bridge. He was a stout, hearty man of one hundred and fifty pounds' weight, with no trace of anæmia, and previously he had enjoyed exceptional health. He had pronounced quotidian intermittent fever, which yielded promptly to cinchonia sulphate. The day after he sent for me, and I found him very dropsical. The anasarca was general, involving face, arms, and legs; there was a small amount of albumen in the urine, but no casts. The heart was acting as usual, though the rapidity of the pulse was accelerated. No murmurs could be heard. The liver and spleen were of normal size, and the man expressed himself as feeling perfectly well except for the swelling.

He was ordered fifteen grains of cinchonia sulphate daily, with ʒi ergot fld. ext., t. d. (the ergot was a preparation made by Mr. Wolff, at Twelfth and Chestnut Streets, with glycerin), also tr. iron.

Two weeks and a half afterwards he completely recovered, and has since enjoyed perfect health.

In September I saw another case; this time in the Philadelphia Hospital. In every respect the case was so similar that I could not fail to recall the former. The same plan of treatment was as effective, though his recovery was retarded till a month had elapsed.

In this case, as convalescence was prolonged, I used the sulphate of zinc, one grain t. d., in addition to the first-named remedies, and stopped the quinine after the third week.

The third case was a colored man raised in Virginia, who had suffered from chills and fever at intervals since 1863. After several of these attacks general anasarca supervened. He told me that he always rubbed himself with an infusion of salt and snake-root, and that in a variable space of time the swelling was, to quote him, "rubbed out."

Just before his admission his malarial fever returned, and following it the dropsy. The anasarca was as extensive as I have ever seen it, even in the worst cases of Bright's disease; the abdominal walls formed tumors from the puffing of the cellular tissue. There was no albumen in the urine; no enlargement of the liver; a moderate increase of the splenic dulness; no heart-disease.

In this case a careful microscopic examination of the blood (Nachet's method) showed only a trifling decrease in the number of the red blood-disks, an average of three examinations showing them to be four million seven hundred and fifty-nine thousand. The urine was rather high-colored, showing by tests an increase in the coloring-matters. There was also a moderate effusion of fluid into both pleural sacs. But, at the same time, the man's spirits were good, and his general health was remarkable. Indeed, he was with difficulty persuaded that he was a sick man.

The treatment here was similar, but purgatives were freely exhibited. Digitalis was employed, and an effort was made to secure some action of the skin by means of hot-water bathing and steam baths. Operative treatment was invoked to relieve the hydrothorax, but no permanent benefit resulted, as the fluid returned, and one day, on rising suddenly from the bed, he fell over dead from asphyxia.

In a post-mortem I have rarely seen so healthy a collection of organs, with the exception of the spleen, which was twice its natural size; but the tissues were fairly reeking with serum, and there was effusion into all the serous sacs.

I would again, at this point, solicit your attention to the fact that these cases occurred in persons who were not anæmic.

Now, in studying these cases for an explanation, two methods have suggested themselves to me. In the first place, when an individual suffers from a chill the blood-vessels of the skin become markedly contracted and the internal blood-vessels as markedly dilated with blood; afterwards we have the febrile and sweating stages, during which the blood-vessels of the skin become dilated and remain so until a new nervous impulse induces contraction, repeating the chill.

Imagine that owing to the intensity and repetition of the action of the malarial poison the normal tonus of the inhibitory nerves is sufficiently impaired to occasion more or less persistent partial or total relaxation of the blood-vessels. The effect of widening the arteries and capillaries would be to over-fill the venous system, and thus would dropsy occur, precisely as in the cases of venous congestion from cardiac disease.

We can, I think, understand that after the malarial germs (?) are destroyed by the action of quinine, the effects of their action upon the nervous system should be more permanent, though the cause has been removed. Familiar illustrations of this are to be found in the enlarged spleen and impaired digestion of those suffering from malaria. This condition passes away whenever the nervous system is recuperated from the shock or the action of nervines assists nature.

In this connection I would remark that the colored patient cured himself with "simples;" in other words, the vaso-motor nerves, having recovered their tonus, resumed their functions. But we are not without experimental evidence on this subject.

The first experiments upon the subject of œdema were made by Lower in 1680. He tied the venæ cavæ, and found that œdema appeared in the lower extremities, and he ascribed the œdema to the diminished absorption of the intercellular fluid owing to venous congestion.

Valsalva and others repeated these experiments, but without a similar result. As usual, in the middle ground the truth was found.

Ranvier has proved that œdema depends not only on diminished absorption, but also upon increased exudation from the vessels. He first tied the venæ cavæ in the abdomen of a dog, and found, like Valsalva, that œdema did not appear; there was undoubtedly over-filling of the arteries, but the lymphatics were able to absorb the exudation without any assistance from the veins, and therefore no accumulation of fluid took place. He also found that upon cutting the sciatic nerve, on the wounded side, intense œdema occurred.

Venous congestion was undoubtedly present in both legs, as the venæ cavæ had been tied, but in one the nervous influence proceeding to the arteries through the sciatic nerve kept them contracted and prevented the exudation of more fluid than the lymphatics could absorb. In the leg in which the nerve had been paralyzed by division of the nerve, the vessels dilated, the limb became rosy and warm, and so much fluid was poured out that the lymphatics alone could not absorb it without the aid of the veins. Ranvier further proved that this was due to the paralysis not of motor but of vaso-motor nerve-fibres which are contained in the sciatic; because, after cutting in different animals motor and vaso-motor nerves in the lumbar region before they had united to form the nerve-trunk, when the motor fibres were divided as they issue from the lumbar vertebræ before uniting with the sympathetic fibres, complete paralysis of the legs was produced, and no œdema occurred; but if, on the other hand, he divided the sympathetic fibres passing to the sacral plexus, there was no motor paralysis, but the vessels dilated, and œdema occurred. The experiments first cited show us that paralysis of the vaso-motor nerves is an important factor in the production of anasarca. It will also be seen that the œdema in the animals experimented upon is analogous to the accumulation of fluid in the cases of the patients whose histories I have cited. But deficient vascular tonus is not, I think, the only factor involved. Broadly speaking, the waste products of the animal economy are urea, carbonic acid, salts, and water. The carbonic acid and the water pass off by the lungs, the urea, salts, and water by the kidney, but by the skin also small portions of the above substances are eliminated. If the function of the skin is suspended, these substances accumulate in the system, and can, I think, aid in the production of dropsy. In my cases the skin was notably harsh and dry.

Again, the function of the skin is not alone dependent upon the blood-supply of the skin, but is also under the control of the innervation of the nerves supplying the cutaneous glands.

Dr. Foster states that the skin of dogs and cats can be made to act, and sweating produced, by stimulation of the sciatic nerve after clamping the aorta; and the same result he has obtained in the leg of a frog by stimulating the sciatic nerve after amputating the leg.* In cases similar to those before us, if exposure to cold occur at the close of a malarial attack, I can understand that the nerves can be influenced by the action of the cold and their function suspended, as easily as I can understand the dilatation of the blood-vessels of the lungs when a pneumonia is traced to a cold. Indeed, I can as readily understand the action of the malarial poison upon the nerves of the spine, just as I can understand the impaired nutrition of those suffering from repeated malarial seizures,—a condition of the system universally credited to an action of the poison upon the nervous system presiding over nutrition. Again, the inaction of the skin may be traced to the anasarca, which diminishes the activity of the circulation of the skin, of course impairing its functional activity. To sum up briefly what I have said, I would refer to the above explanation those cases of general anasarca, often preceded by malaria, in which no lesion of the heart, kidneys, liver, or blood can be diagnosticated. I say blood, because my cases differ from others which I have seen reported, in the fact that there was no associated anæmia. It appears to me, therefore, that the theory of a lesion of the vaso-motor nerves, and of the nerves presiding over secretion, is more certainly established. The blood-corpuscles, it is true, were counted in but one case, yet I am sure that my hearers will support the statement that anæmia can be recognized by physical examination alone, and the local congestions of anæmia must deceive in but a very few cases. I think the theory which I offer is especially useful in the explanation of those cases of moderate dropsy, which is also very often local, which is frequently seen in persons in middle life, and also in young persons who have been subjected to depression of nerve-tonus.

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* The existence of secretory nerves, and their special influence over the secretions of the skin, have also been investigated by Dr. Isaac Ott and G. B. Wood Field in a series of original experiments. Their experiments are confirmatory, and may be found in the Journal of Physiology for 1878–79, entitled "Sweat Centres: the Effect of Muscarin and Atropin on them."

Before closing, let me ask you to consider a treatment by tonics, directed to restore the tonus of the nervous system, and the vaso-motor system especially,—viz., by strychnia, sulphate of zinc, tincture of chloride of iron, fluid extract of ergot, digitalis, and quinine. These drugs I have successfully employed, sometimes dispensing with the digitalis, especially in the cases of moderate anasarca, and also in cases of those whose stomachs would not tolerate this drug. In the first place, let me say that absorption of fluid from the tissues is, like its exudation into them, probably greatly controlled by the central nervous system. Dr. Brunton cites the experiments of Goltze and Nasse, in which the former found that when fluid was injected under the skin of the back of a frog it was rapidly absorbed, so long as the brain and spinal cord were unimpaired, but when these were destroyed little or no absorption took place.

Physiologically speaking, absorption is under the influence of nerve-centres, therefore stimulation of these centres will increase their physiological functions. Stimulation of a sensory nerve is capable of inducing contraction of the entire vaso-motor system. Apropos to this, Nasse has found that irritation of a sensory nerve actually did occasion increased absorption. To return, however, to the subject of medication by the drugs mentioned (zinc, ergot, iron, digitalis, strychnia, quinine), not only do they act as tonics to the nervous system, but some of them, viz., those which are astringents, possess a direct influence upon the blood-vessels through their local impression upon the vaso-motor nerves, which fact I quote from Rosenstein's experiments recorded in Ziemssen's "Cyclopædia" and also in Dr. H. C. Wood's "Therapeutics."

Iron may be said to act also by restoring to the red blood-corpuscles one of their normal constituents, enabling them to perform more perfectly their function as carriers of oxygen to the tissues, and thus the material accumulated in the lymphatics and veins is first oxidized and then eliminated from the system.

In my last cases, because the effusion was so extreme, digitalis was employed. This drug, by its properties as a stimulant to the vaso-motor and cardiac systems, acts most favorably as a tonic diuretic, mainly, probably, through the increased efficiency by which the circulation is maintained. The only contra-indication occurs in cases where the stomach cannot bear the drug; and this remark will also apply to the use of iron.

Finally, let me allude to the value of strychnia as a tonic. This drug is very highly recommended by Dr. Lauder Brunton, to whose paper on the "Action of Tonics" I am much indebted.

He remarks that strychnia by its action as a respiratory stimulant can aid in thoroughly oxygenating the blood, thus promoting the efficiency of the circulation, and by this means also probably the more perfect elaboration of the red blood-cells is accomplished by the blood-making glands.

Further, he claims a stimulant action not only upon the dominant vaso-motor centre, but also upon the vaso-motor centres distributed through the cord. These centres, to quote his words, are so feebly developed as not to heed ordinary stimulation, but can be aroused by the use of strychnia to lend their aid to increase the vascular tonus. "For," says he, "it has been proved that after section of the spinal cord, which of course paralyzes the vaso-motor centre, the blood-pressure can be made to rise by the irritation of a sensory nerve."

But, while giving the prominence to strychnia to which its value as a respiratory stimulant in bronchitis and asthma and its use as a tonic entitles it, I would say that, of the other drugs to which I have referred, none has yielded to my clinical experience more valuable results than the sulphate of zinc. This drug, in small doses continued for a considerable period, is, I think, more efficient than any other preparation of zinc, and it is an addition to our armamentarium with which we can combat nervous exhaustion, scientifically termed deficient vasomotor tonus, whether this deficient tonus is or is not accompanied by œdema.

NOTES OF A CASE OF FATAL PERITONITIS RESULTING FROM THE RUPTURE OF AN INTRA-PERITONEAL ABSCESS; WITH REMARKS.

BY LOUIS STARR, M.D.,

Physician to the Episcopal Hospital, Philadelphia.

CARL ——,* æt. 48, a weaver by occupation, and a man of moderately temperate habits, was admitted to the medical ward of the Episcopal Hospital at noon on November 11, 1878. In 1870 he had contracted a venereal sore, but he had never had any symptoms of constitutional syphilis. In 1876 he had had intermittent fever. Otherwise his health had been good until one week before admission. At this time, apparently without cause, he began to have rigors, followed, after twenty-four hours, by slight fever, loss of appetite, abdominal pain increased by deep inspiration, and general prostration.

When admitted, he was greatly fatigued by the exertion of walking to the hospital. His face had an anxious expression, his skin felt clammy, his hands and feet were cold and livid, and his pulse was weak. There was little emaciation, and no jaundice or œdema. His tongue was heavily coated with a yellow fur, there was great thirst, anorexia, and diarrhœa, the evacuations being attended with pain and numbering ten or twelve daily. His abdomen was moderately distended, its wall was tense, especially in the epigastrium and along the right side, and the abdominal respiratory movements were diminished. There was dulness on percussion, tenderness, gurgling, and localized bulging in the right iliac fossa. In the right lumbar region there was also dulness, while in the right hypochondrium and all the remaining regions there was tympany. He complained of pain over the whole of the abdomen; it appeared, however, to centre in the right iliac fossa. There was no cough or expectoration; the respiration was costal in type and increased in frequency. Over the base of the right lung the percussion-resonance was impaired, the respiratory murmur was feeble, and pleuritic friction-sounds were heard. The heart was healthy. The urine was passed freely, and upon examination was found to be normal in composition. The patient was directed to be kept perfectly quiet in bed, to have a diet of milk and beef-tea with a suppository of one grain of extract of opium as often as required to moderate the pain and diarrhœa, and a light flaxseed poultice was applied over the abdomen.

At 6 P.M. the pulse was 100, and the temperature, taken in the axilla, 101.5° F.

During the 12th, 13th, and 14th he grew slowly worse. Notwithstanding the opium used, he suffered considerable pain, slept poorly, and had frequent evacuations from the bowels, the motions being liquid, dark green in color, and very fetid. The pulse ranged from 92 in the morning to 104 in the evening, the temperature from 98.5° to 101.5°, and the respiration from 28 to 40. At 5 P.M. on the 14th vomiting set in.

On the 15th the following notes were made. Has had obstinate vomiting since yesterday afternoon, thirst is excessive, and liquids are regurgitated almost as soon as swallowed; tongue heavily coated in the centre, clean and red along the edges; bowels less frequently moved. Abdomen more tense and distended; respiratory movements of the abdominal wall abolished; tenderness still most marked in right iliac fossa, but more generally distributed than before; dulness on percussion over the whole of right side; marked distention of knuckles of intestine on left side, causing irregular projections of the parietes; palpation on this side produces loud borborygmi. Digital examination of rectum negative. Patient's face is very anxious; he has soreness and cramp-like pains in the abdomen; there is great prostration, with occasional rigors, moist skin, and cold extremities. Decubitus indifferent. Urine voided naturally. Respiration costal, 32 per minute; pulse feeble, 129; temperature 99°.

Sufficient opium was administered by the rectum to maintain a slight degree of narcotism; a fluidounce of milk with two fluiddrachms of lime-water was given every hour, the alternate doses containing a teaspoonful of brandy, and the poultices were kept up.

On November 16 the pain, although blunted by the opium, continued, and was aggravated by any movement of the body. There was occasional vomiting, and several liquid stools were evacuated. The abdominal tenderness and distention remained about the same in degree, but the latter was more uniform. The area of dulness extended so as to occupy nearly the whole of the abdomen, and the skin over the sides and the lower portion of the belly assumed a dusky-red, maculated appearance, the redness disappearing on pressure and slowly returning after its removal. Respiration 32, pulse 120, temperature 99° to 100°.

On the morning of November 17 the prostration was extreme; the decubitus was dorsal, with the legs drawn up; there were occasional colic pains; the pulse was feeble and rapid, 132; the respiration hurried, 56; and the temperature high, 102°. There was insatiable thirst; no vomiting, but prolonged paroxysms of hiccough were excited by taking anything into the stomach; the bowels were moved at short intervals. The urine was passed involuntarily during the attacks of pain. The abdominal distention was greater than before, and the red maculation was more diffused, and disappeared less readily on pressure. Death occurred at three o'clock in the afternoon, consciousness being retained until almost the last moment.

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* History taken from the ward notes of Dr. J. M. Anders, Resident Physician.

An *autopsy* was made twenty-two hours after death. The body was much emaciated, decomposition had already set in, and the whole surface of the abdomen was discolored.

On opening the abdomen, a very small quantity of fetid gas escaped. The great omentum was shrunken into a narrow band, extending from the left hypochondrium to the middle of the umbilical region, and thence directly downward to the pelvis. Along its right edge it was quite firmly adherent to the abdominal wall above and to the intestines below, and thus divided the peritoneal cavity into two portions, the right containing dark, greenish-brown, ill-smelling pus in sufficient quantity to push the intestines towards the opposite side, and the left a smaller amount of laudable pus. Both the parietal and visceral layers of the peritoneum were thickened and covered with a deposit of lymph about one-sixteenth of an inch in depth, this was readily detached, yellow in color on the left of the omental adhesions and grayish-brown on the right; flakes of lymph were also found floating in the purulent matter. There were numerous agglutinations of the intestines to each other and to the abdominal wall, especially in the neighborhood of the cæcum. These were easily broken up, except in two positions, one just at the bend of the ascending colon, where the gut was adherent to the parietal peritoneum over a space an inch and a half in diameter, and the other, evidently much the older, in the right iliac fossa, where the right side of the cæcum was bound to the peritoneum, covering the iliacus muscle. In each situation the attachments were so firm that they were inseparable by any means short of dissection.

The cæcum itself was greatly distended, and upon drawing it to the left, so as to expose the anterior edge of the adhesion, a small opening, one-fourth of an inch in diameter, with thin and ragged margins, was disclosed. This opening led into an oval cavity, as large as an English walnut, lined with a layer of lymph, filled with pus of the same character as that found in the right segment of the abdomen, and having for its walls the thickened parietal layer of the peritoneum on the outside and the cæcum on the inside. The mucous membrane of the cæcum was healthy, and no trace of a previous perforation could be found. The vermiform appendix, though somewhat involved in the adhesion binding down the cæcum, presented nothing abnormal. The ascending colon was greatly distended, its mucous membrane was thickened, and directly beneath the position of the firm attachment to the abdominal wall there was an isolated spot of deep congestion. The rest of the large intestine was nearly empty and much reduced in calibre. The small intestine was distended. The stomach was displaced to the left, and there was congestion of its mucous coat. The liver was enlarged, there were flakes of lymph upon both surfaces to the right lobe, and the glandular tissue was fatty. The spleen and kidneys were healthy.

Upon examining the thorax, the heart and left lung were found to be normal; there were firm pleuritic adhesions over the whole surface of the right lung, and the lower lobe was congested.

Remarks.—When this patient first entered the hospital, the general symptoms and the signs obtained by physical examination of the abdomen led to the diagnosis of acute general peritonitis,—an opinion which was confirmed by a brief observation of the case. But, bearing in mind the extreme rarity of idiopathic peritonitis, the point of greatest interest was to determine the cause of the inflammation. Of this the previous history furnished no clew, nor could any aid be obtained from the rational symptoms, the majority of these being referable solely to the peritonitis. Nevertheless, the centralization of the pain and tenderness in the right iliac fossa, with the dulness on percussion and the local bulging, indicated that this was the situation in which to look for the solution of the problem.

Among the different lesions occurring in the right iliac fossa two only were at all likely to be present under the circumstances, namely, typhlitis or perityphlitis. Between these two it was impossible to decide, though it seemed most probable that the peritonitis was due to typhlitis with rupture of the appendix vermiformis, both on account of the comparative infrequency of perityphlitis, and because of the rather sudden onset of the attack. The incorrectness of this supposition was manifest at the autopsy upon the discovery of the intra-peritoneal abscess. This abscess, together with the surrounding firm adhesions, had undoubtedly been the result of a circumscribed peritonitis (produced most probably by some affection of the cæcum,—perhaps fecal accumulation), which, judging from the nature of the union and the healthy condition of the mucous membrane of the cæcum, had long antedated the attack that caused death, and which had never given rise to symptoms sufficiently severe to fix the attention of the patient. So soon, however, as the abscess ruptured, the ordinary effects of a discharge of purulent matter into the peritoneum ensued, the inflammation extending first from the right iliac fossa to the right side of the abdominal cavity, and subsequently to the whole peritoneal surface,—the fact that the right side was primarily affected being indicated by the character of the pus, the firmer nature of intestinal agglutinations in this position, and the apparent effort at limitation seen in the continuous line of omental adhesions.

The slight escape of gas on opening the abdomen, and the condition of the pus on the right side, were rather suggestive of intestinal perforation. But the amount of gas was very trifling, and was attributable to post-mortem changes, while the appearance of the pus was explained by the source of the inflammation. Besides, neither the gas nor the pus had any fecal odor, the latter was free from intestinal contents, and, most important of all, no rupture of the intestinal wall could be found.

The partial collapse of the greater portion of the large intestine was due to obstruction caused by the adhesion at the upper end of the ascending colon.

The peritonitis, in this instance, ran a very typical course, the only unusual features observed being the dusky-red maculation of the skin covering the abdomen, and the condition of the bowels. The first symptom has not been present in any other case of peritonitis that has come under my notice; it appeared to result from interference with the circulation. The occurrence of diarrhœa, on the contrary, is not rare, though constipation, depending on paralysis of the muscular coat of the intestines, is the usual state.

As the supposed exciting cause was as irremediable as that discovered at the inspection, the only indications for treatment were to limit, as far as possible, the inflammatory process, to lessen the pain and the gastro-intestinal irritability, and to support the patient's strength.

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Hakim Hafiz Fakharuddeen is the Arabian-Nights-like name of a Hindoo contributor to the *Lancet.*

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINIC OF DR. R. J. LEVIS.

Reported by Dr. George F. Souwers.

THE MECHANICAL TREATMENT OF POSTERIOR ANGULAR CURVATURE OF THE SPINE—MR. GEMRIG'S IMPROVED SPINAL JACKET.

I SHALL present for your consideration this morning an improved mechanical device for the treatment of those diseases of the spine which require rest and support. They are diseases of either the bony, the cartilaginous, or the ligamentous structures of the spine, and their most frequent form is the posterior angular curvature to which the name of Pott's disease is given. When loss of substance of the bodies of the vertebræ occurs, the superincumbent weight of the structures above the seat of disease bends the spine forward, and the unaffected spinous processes project backward. This bending and crushing action of weight is added to by the action of the muscles on the anterior portion of the trunk, particularly the muscles of the anterior abdominal parietes. Besides general hygienic influences, the great elements in the treatment of this disease are to maintain rest and to give mechanical support to the spine. If cases of spinal caries could be always seen in their incipiency, rest in the horizontal position would be almost the sole essential of treatment; but as we meet them in practice great structural changes have usually taken place, and they must be so mechanically supported as to allow them to enjoy exercise and open-air life.

Many of you who have attended this clinic have seen me apply the plaster jacket of Dr. Sayre, which has done so much good, and of the method of application of which I shall again speak later in my lecture. I now present to you a most useful improvement on the appliance of Dr. Sayre, devised by our excellent surgical instrument maker, Mr. Gemrig. Some of the inconveniences of the plaster jacket are the difficulty of its removal, its liability to bear uncomfortably on the more salient points of the trunk, its tendency at times to break up or to crumble, and the fact that the patient remains sealed up in the stony encasement without the possibility of performing any ablution of the surface.

In making this leather jacket of Mr. Gemrig, an accurate mould of the chest is taken by first applying the plaster jacket, with the patient suspended, so as to give the form of the trunk when relieved of the weight of the head and shoulders, the spine being as near as can be in its normal line. The jacket is then cut open in the middle line in front before it has become quite hard, and from this mould a cast of the suspended body is made by pouring into it a quantity of mixed plaster. On the cast of the trunk which is finally made, a piece of half-tanned, thick leather is evenly applied, in a thoroughly wet state, moulded accurately, and allowed to dry in position. The leather encasement fits accurately to the cast, and on being removed is found to represent exactly the surface of the thorax, showing the details of unevenness of the intercostal and intermuscular spaces. An accurately-fitting and very durable leather jacket is the result; this is lined finally with soft chamois-skin, cushioned at the axillary edges, ventilated by fenestræ cut in it (which ventilation, by the way, is impossible in the ordinary plaster bandage), and fitted with eyelets and lacing-cord, as a permanent arrangement to be worn for an indefinite period. This jacket has the merit of being almost indestructible for practical service, is readily removable for ablution of the body, and can be worn continuously or be taken off at night, as may be specially required.

In the case of the child before you the posterior angular curvature is very high in the dorsal region, and the forward yielding, from loss of substance of the bodies of the affected vertebræ and their cartilages, has allowed the head to sink downward and forward, adding to the effect of the deformity and the distress of the little sufferer; in fact, previous to the application of this apparatus she was compelled, in walking, to support the head and shoulders by placing her hands on her thighs. Now, however, she can get around without thus supporting herself.

Now, in addition to the admirable spinal support by the leather jacket on the principles originated by Dr. Sayre, you see how, by the addition of a "jury-mast," as he calls it, the head of the child is supported in an erect position, and the yielding spine relieved of its superincumbent weight, by a rod reaching above the head, and from which extend supporting bands beneath both occiput and lower jaw.

This excellent improvement of Mr. Gemrig on the plaster jacket costs comparatively little, but with the poorest classes of patients—and they are, unfortunately, the commonest sufferers from spinal deformity—you may effectively resort to the plaster and bandage encasement, and it can often be worn for a number of months without change. You may remember that, having fitted a plaster jacket, the surgical instrument maker can speedily pattern from it the more convenient and effective leather apparatus.

In closing, I shall give you a few details as to the manufacture and application of the simple plaster jacket. The surface of the trunk is first bathed and then thoroughly dried; a skin-fitting, seamless shirt, without arm-holes, but with straps that can fasten over the shoulder, is then put on the patient. Before applying this dressing it is essential that the patient be suspended. This may be done in various ways. A hook driven into the ceiling, from which a rope is suspended and to which a sling that catches the chin and occiput is attached, will answer. A more convenient form of apparatus is this tripod support: through a pulley a cord passes, to which is attached the chin-collar; a steel cross-bar is also attached to the tripod, by which bands may be passed under the arms of the patient, thus providing additional support. By these shoulder- and chin-bands the patient may be elevated till merely the tips of the toes rest on the ground. Instead of using the shoulder-straps, the patient may grasp the cross-bar by the hands above the head, by which all the trunk-muscles are put in a state of extension.

In making the bandage coarse crinoline is employed, or a coarse muslin with rather large meshes or open texture. This is passed through dry plaster of Paris, which is thoroughly rubbed into the meshes. A number of these bandages should be prepared and put away in an air-tight box, to be used when required. When the bandage is to be used it is simply dipped in water and wound round the patient's body, each turn of the bandage covering half of the previous turn; over all a little wet plaster is rubbed, and the bandage is then allowed to dry.

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TETANUS FROM HYPODERMICS.—In the *British Medical Journal* for November 1, 1879, is reported a case in which fatal tetanus was produced by a hypodermic injection of morphia.

TRANSLATIONS.

Arsenic in Diseases of Children.—Dr. Simon, in a lecture on infantile therapeutics (*Le Progrès Méd.*, October 25, 1879), speaks favorably of arseniate of sodium, not only in certain diseases of the skin, but also in young patients tending to tuberculous or nervous disease, or pulled down by malaria. Far from considering the use of arsenic in diseases of children dangerous, he advocates its employment in many instances, beginning with minimal doses, gradually increased from day to day until the maximum is reached, maintained at this point during several days, and then slowly decreased; this same course then to be repeated. At the end of two or three weeks the arsenical treatment is to be suspended for a fortnight, and then recommenced as before. Simon recommends the arsenical waters of Mont Doré and Bourboule very highly for anæmic and scrofulous children, and in general where sea-water and sea-bathing are ordinarily employed. He advises that in the case of children arsenic should never be used externally. Among the internal preparations he ordinarily makes use of Fowler's solution, of Pearson's solution, and of the arseniate of sodium and iron.

Fowler's solution, as is known, contains one per cent. by weight of arsenious acid, one minim containing one-hundredth of a grain. Pearson's solution, less familiar, is a solution of arseniate of sodium containing one grain of the salt to the fluidounce. Simon usually employs it according to the following formula:

℞ Sodii arsenit., gr. i;
Aquæ destillat., f℥viij;
Aquæ melissæ, q. s. M.

This is a good formula as a basis for dosage. Each teaspoonful contains about one-sixtieth of a grain of arseniate of sodium, and the aromatic water may be added in sufficient quantity to give any dose required. He does not administer arsenic to children under two years of age, but beyond this he gives it without hesitation, beginning with one-third of a teaspoonful, then increasing to one-half, three-fourths, etc., until a whole teaspoonful (one-sixtieth of a grain) is reached.

Simon gives the arseniate of iron in pill form in the dose of one-sixtieth to one-thirtieth of a grain in the course of the day for large children, increased gradually to one-sixth and even one-third of a grain in the twenty-four hours.

Perforation of the Cranium by Pericranian Tumors.—Dr. H. Petit, at a meeting of the French Medical Association (*Gaz. Hebdom. de Montpellier*, 1879, p. 140), remarked that tumors situated about the cranium may penetrate the bony envelope, even over a large surface, and may come in contact with the brain itself, without giving rise to any accident. Ablation of these tumors, however, may cause death in the middle of the operation by syncope, or some days subsequently by meningitis. In some instances the patient has survived a sufficient length of time to permit cicatrization of the wound made by the operation. The existence of continuous, fixed, penetrating cephalalgia may, in the absence of cerebral phenomena, give rise to the suspicion of perforation; but this cephalalgia may be masked by neuralgia of the face, or, on the other hand, the cerebral phenomena may exist without perforation. Diagnosis, therefore, is a matter of great difficulty, and the surgeon who operates in such a dubious case should be held responsible. The tumors which ordinarily cause perforation are naso-pharyngeal polypi, carcinomata, epitheliomata, sarcomata, and occasionally osteomata.

Researches on the Hymen and Vaginal Orifice.—M. P. Budin has recently published some interesting papers on this subject (*Le Progrès Méd.*, 1879, No. 35, *et seq.*), in which he gives the result of numerous examinations. He finds not only that the first marital approaches frequently take place without pain and without rupture of the hymen, but also that this membrane varies very greatly in its size and shape. From a medico-legal point of view, these researches are of interest, and especially as they are founded on numerous careful investigations.

Caseous Coryza.—At a recent meeting of the Société de Chirurgie (*La France Méd.*, 1879, p. 670), M. Perrier showed specimens from a patient suffering from caseous coryza. More than half a glassful of caseous plugs were presented which had been extracted from the nasal passages. The patient was cured.

Nux Vomica in Dizziness.—Mader (*Wien. Med. Blätter*, 1879, No. 8) gives extract of nux vomica, to the amount of one and a half to three grains a day, with favorable results.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, DECEMBER 20, 1879.

EDITORIAL.

NATIONAL BOARD OF HEALTH.

THE recent meeting of the American Public Health Association was eminently successful in every way, and must do much good, not only by its direct results, but also by stirring up and encouraging sanitarians in all portions of the country, and by helping them towards that unity of work and methods which is so necessary for the highest success.

Yellow fever, quarantine, and the various questions growing out of the recent epidemics were, of course, the supreme topics of the hour, but far outreaching all others in importance was that of the establishment of a National Board of Health. Yellow fever comes and goes; epidemics of all sorts sweep over continents, to disappear for years; but the question of proper national health organization is co-eternal with this republic, both in its interest and in the consequences of the way in which it is answered. "For men may come and men may go, but I flow on forever."

Under these circumstances, and as the gathering together of Congress presses on the time for action, it is remarkable that the medical press have so little to say on the subject. In order that we ourselves may not be derelict, we most earnestly call the thoughts of our readers to the problem.

At the Association the following preamble and resolutions were passed in regard to the National Health Board:

WHEREAS, The National Board of Health has, in accordance with the law which created it, requested the advice of the American Public Health Association regarding the form of a permanent national health organization of the United States, including its relations to quarantine, both maritime and inland; and,

WHEREAS, The opinions of the Advisory Council of the Association upon the subject of health legislation, collected and presented to this body through Dr. J. M. Toner, Chairman of the Council, have been duly considered: therefore,

Resolved, That in the opinion of the American Public Health Association the present National Board of Health has been of such vast service to the country that it is not expedient to make any essential change in its organization, and that any minor improvement in details should be left to the Board itself.

2. That the investigations which have been commenced by the Board are approved and should be continued, and that similar investigations should be undertaken by it into the consideration and prevention of other diseases as well as yellow fever.

3. That Congress should appropriate sufficient funds to enable the Board to employ the best talent and apparatus in such scientific and practical inquiries.

4. That the operation of the existing quarantine law, and of the rules and regulations prepared by the National Board of Health on that subject, has accomplished great good, and that no change in the law should be made without the most careful and serious consideration.

5. That in the opinion of this Association the national quarantine should be under the direction of the National Board of Health and of an executive committee to be selected by that body.

6. That this Association has no suggestions to make with reference to any amendments to existing legislation in regard to quarantine, preferring that they should come from the National Board of Health, as the most competent body to advise whatever may be best.

7. That it is expedient for the National Board of Health to call an international congress for the discussion of the very important subjects of international sanitary quarantine, etc.

8. That it is the duty of the general government to build, equip, and conduct, at the mouth of the Mississippi River, a quarantine station at such a place as may be designated by the National Board of Health.

9. That the Secretary of this Association be instructed to forward to the National Board of Health a certified copy of these resolutions, together with the reports and documents of the Advisory Council, and that the Executive Committee be instructed to take such action, during the next session of Congress, as may seem best suited to promote legislation in accordance with these resolutions.

A study of these resolutions seems to show that they are very skilfully framed to express confidence in the present Board and the feeling that it is well to let well enough alone. They certainly have the merit of not leading to overhasty action,—a merit which will not be unappreciated by those who, last year, pleaded so earnestly for tentative measures, in order that the various elements might crystallize slowly in the unknown mixture of wants, physical and legal laws, and possibilities, which made up the so-called question of national health.

It does seem to us, however, that something beyond what these resolutions call for might possibly be attempted at present with safety.

The experiences of the past summer show that there are two distinct offices to the National Board of Health, and we are not certain that the time has not arrived for the at least partial separation of these functions. These offices may be called, with sufficient accuracy, executive and legislative. Of course, except in the interpretation of laws a national board of health can have no immediate powers other than executive, but its indirect power ought to be enormous. A recommendation to Congress from a properly constituted body of experts ought to be almost tantamount to a passage of the law. It is notorious that within a certain scope the National Academy of Science is becoming very powerful, and it is one of the most hopeful signs of the times that our Congressional representatives should give so much of weight to those whose opinions ought to have weight, although they are not backed up by any political power. What the National Academy is in the province of general applied science, *i.e.*, the recognized expert adviser of Congress, such should a national health board be in regard to scientific questions arising within its domain.

It is plain that any one man or any two or three men, living in Washington City, ought not to be trusted with the decision of questions involving the whole United States. Even the present National Board is evidently too small to act at best advantage as an advisory legislative council or in the interpretation of Congressional directions. There never was a more absurd quarantine enactment than that attempted to be enforced in this port last summer by the National Board. Is it conceivable that if Philadelphia had had a good representative upon the Board such a mistake would have been made?—a mistake which, it is to be remembered, did more to weaken the hold of the National Board upon the governing classes of this section of the country than a dozen successes can do to strengthen such hold. If there had been a Philadelphian in the Board, he of course would have been consulted by the executive officer, even if the subject had not been discussed in full meeting of the Board.

To our thinking, it is becoming clear that a board which is to act wisely for all interests and localities, and which is also to have the necessary influence upon Congress, must be truly national; probably it should be composed of one member from each State of the Union. What is a sanitarian from New Orleans to know of the especial sanitary needs of a New England seaport or of San Francisco? How much more of influence is it probable that a Georgian expert will exert upon the Congressmen of Georgia than upon those of Maine or Minnesota? A large board could only meet at long intervals; probably once a year would be sufficient. By its very size, still more by the rarity of its meetings, such an organization would be executively inefficient; but the present body also seems to us too large and too scattered for advantageous action. A member of the Board told us that during the past summer he had travelled fifteen thousand miles for official purposes, all of which, of course, has to be paid for by some one.

Executive action, to be efficient, must be concentrated in one person or in a small, compact committee living in one city or closely adjacent cities. The duties of the executive, as the functions of a central board of health become wider (as they must under progressive development), will become very onerous, and should be attended to by one person whose whole attention is given to the one subject, and who should therefore be well paid for his time, and be a man of first-rate executive and scientific ability. Such a man undoubtedly could be procured for the salary paid to the head of the United States Geological Survey, the appointment being permanent, and removal requiring a legal process before the National Board of Health. Supported by an advisory committee which could readily be called together in an emergency, such health officer could well perform all the executive duties required, and in every way both aid and be guided by the National Board itself.

The proposition, then, which *at present* commends itself to our judgment, and which we should like to see freely discussed and criticised, is that the National Board of Health should have represented in it each State of the Union; that its meetings should be held once or twice a year; that in it should reside all the judicial and advisory powers of the Board; that its president should be a national health officer, appointed as the judges of the Supreme Court are appointed, and removable only for cause; and that all executive functions should be performed by this officer, aided by a small advisory committee so constituted that it could be readily summoned upon any emergency. The expense of such organization would not be in any way excessive; indeed, in the long run, probably not equal to that entailed by the present organization. Expense is not, however, the question, but efficiency; and a policy which for a few dollars would dwarf a project so important as the one under consideration would be inconsistent—we will not say with the dignity of this great nation, but—with the far-famed shrewdness of the American people.

THE annual report of the Surgeon-General does not contain very much that is at the same time of interest and unknown to the general profession. We note, however, the usual reports of slaughter of and by Indians, also; that the National Medical Library has been increased by the addition of three thousand volumes and three thousand five hundred pamphlets; that the work on the concluding volumes of the medical and surgical histories of the war is being pushed rapidly forward, the surgical volume having two hundred pages of it already stereotyped; and that two vacancies exist in the Army Medical Corps in the grade of surgeon and twelve in the grade of assistant-surgeon.

CORRESPONDENCE.

LONDON LETTER.

IN the present letter I propose to consider the subject of the digestive ferments of the body. It is a subject on which little is generally known, but on which it is very desirable that more be known. Feeble digestive power seems to be becoming more and more common among us. From the failure of the teeth—so almost universal now—to feebleness of power in the stomach and inactivity in the intestinal canal, the power to assimilate food seems to be waning among us in the latter half of the nineteenth century. Artificial teeth, artificial pepsin, artificial diastase, artificial pancreatic juice, thousands of quack pills to keep the bowels open,—all testify to the growing necessity for aids to nature's assimilative processes. It is not necessary, and it is scarcely desirable, to discuss the asserted use of electricity to aid in the development of nerve-currents in the viscera. The highly-elaborated machine—man—is now only to be kept up by artificial nutrition; his albuminoids must be partially digested, his fats emulsionized, and his starch helped at least half-way on the road to sugar, in order that he may be fed sufficiently. Just as the farmer finds that he can fatten his cattle more cheaply by cooking sundry foods, and so spare the digestive process in his store-animals, so the physician finds that healthy tissues in dyspeptics can only be secured by elaborate preparation of the food before it is swallowed.

The groundwork of this letter is an article by Dr. Wm. Roberts, F.R.S., of Manchester, entitled "Observations on the Digestive Ferments, and their Therapeutical Uses." Dr. Roberts is the author of the well-known treatise on "Urinary and Renal Diseases" so favorably received on your—as well as our—side of the Atlantic. He commences with diastase, otherwise ptyalin, in the saliva, whose sole power is that of converting starch into sugar. In early infancy in children and during the suckling stage of calf-life the parotid gland secretion has but a very feeble power over starch. Gradually the power is developed, and in the calf the sweetbread is lessened in size comparatively as the parotid glands develop. At first the milk must be the food of infants, and starch be withheld until the power to convert it into sugar is developed. Now, in order to find diastase artificially to supply its deficiency in the saliva, malt has been largely used of late. If properly prepared, malt extract is rich in diastase and has a high power of digesting starchy matters. A large number of malt extracts, however, are powerless because prepared at a too high temperature. Any heat above 157° F. is destructive to diastase in solution. Even when a reliable malt extract has been procured, it is important to choose the right time for its administration, as the action of diastase upon starch is arrested in the stomach by the presence of the acid in the gastric juice; and this arrest is permanent, for, under ordinary circumstances, not a particle of diastase in an active condition escapes through the pyloric ring. In order, then, to get the utmost advantage from artificial diastase, it should be mixed with the food before it is taken. Malt extracts are not unlike treacle, and are sweet; consequently they may be used advantageously to sweeten food, and can be mixed with combinations of starch and milk with advantage in every way. When the temperature of the starch and milk has fallen below 157° F., the malt extract should be stirred in it. As to how to find out this temperature, it is simple. We cannot sip in teaspoonfuls any substance which has a higher temperature than 150° F.; consequently, when the mess has become so cool that it can be sipped, then the malt extract can be added, and the whole can then be taken. As to how long the complete mixture can stand before it is swallowed, so as to get out the full value of the diastase, Dr. Roberts does not say; probably two or three minutes are sufficient. By such means, then, we may materially aid the action of the human saliva upon starchy foods; and for a great many children such action would be a great boon.

Then comes the question of the digestion of albuminoids by the gastric juice. The special ferment of the gastric juice is pepsin, which digests the albuminous and gelatigenous elements of our food. Pepsin is only active in the presence of an acid, and the normal acid of the stomach is hydrochloric acid; other acids, however,—lactic, phosphoric, and citric, etc.,—render pepsin active, but not so energetically active as does the hydrochloric. Under the influence of pepsin, proteid compounds are changed into peptone or peptones. The plural "peptones" is often used, because the products arising from the digestion of proteid compounds exhibit considerable variations *inter se*. The change impressed on a native proteid by its conversion into peptone is probably simply a hydration,—a change similar in character to the hydration undergone by starch in its conversion into sugar by diastase. As soon, however, as a peptone enters the blood-current, it is immediately turned back into a proteid (serum-albumen). So quickly does this retransformation take place that no peptones can be detected in the lacteals or in the portal vein. The gastric juice has also the property of curdling milk, but this it appears is due to another ferment than pepsin, though what this ferment is is not yet known. To return to pepsin. The power of pepsin to digest albuminoids in the presence of hydrochloric acid in a vessel kept at the temperature of the body has long been known, and the resultant idea of using artificial pepsin in order to aid digestion in persons of weak digestive powers has long been in operation. Pepsin preparations are specially adapted for administration by the mouth immediately after a meal. A specimen of *liquor pepsinæ* shown by Dr. Roberts to the Society he addressed was so potent that a teaspoonful of it added to six ounces of acidulated water dissolved an ounce of chopped white of egg completely in three hours. He thought that many who had lost their faith in pepsin might be encouraged by this to give an energetic preparation of pepsin another trial. Not only can pepsin be given by the mouth, but preparations of meat already digested by pepsin may be procured.

Then comes the question of the pancreatic secretion. Recent observations have shown that the pancreatic juice has four distinct actions upon our food-stuffs: (1) it converts proteids into peptones in alkaline media; (2) it curdles the casein of milk; (3) it transforms starch into sugar; and (4) it emulsifies fats. But for the pancreatic fluid to convert proteids into peptones an alkaline medium is requisite. The ferment which does this is trypsin. Now, in the presence of an acid trypsin is inert. Just as the diastase fermentation of starch is arrested when the acid gastric juice is reached, and the action of pepsin in an acid medium is set up in the stomach, so in its turn, when the food passes the pyloric ring and becomes alkaline, then the action of pepsin ceases and that of trypsin begins. The pancreas is also rich in diastase, so that the conversion of starch into sugar is resumed, and the two hydrating transformations go on side by side. At the same time the emulsifying of fat is carried on. These several actions of the pancreatic fluid are most important in the assimilation of food, and, of course, the idea soon took root,—how could artificial pancreatic juice be given to the dyspeptic bimana? Several preparations were soon in the field, and it was asserted that fat could be emulsified in the body by giving pancreatic fluid by the mouth. But, unfortunately, there is the acid in the stomach by which the pancreatic ferments are destroyed to be encountered. Here is a dragon at the portal which bars the way! An aqueous pancreatic extract, with just enough of spirit to prevent its decomposition, was exhibited. It was a limpid, straw-colored fluid, with very little taste or smell of its own, and of nearly neutral reaction. But, though so pale and bland, it is an elixir of remarkable powers; it curdles milk like rennet; it changes starch into sugar with unrivalled energy; with the aid of a little alkali it transforms albuminous substances into peptones; finally, it emulsifies fats more perfectly than any other known agent. Yes! there stands Dr. Roberts with the elixir of life and comfort for thousands in his hands; but there is that gulf to be passed, — the acid stomach. There he is on Mount Pisgah, with the promised land within sight. Moses understood how to diet the dyspeptic Israelites, and the dietary which he gave them was admirable in its sagacity. Here is another prophet within sight of the promised land. Will he reach it? How does Dr. Roberts propose to pass his pancreatic solution rendered powerless by an acid through the acid stomach so that it shall retain its potency? Guarded by an alkali, it may get through the stomach, but what then becomes of the acid digestion of proteids by pepsin? Dr. Roberts is equal to the difficulty. He waits till the digestive act in the stomach is nearly completed, or what he calls "towards the tail of gastric digestion," and then, "under the guardianship of a dose of alkali," he conveys his pancreatic solution into the duodenum, "where it arrives opportunely to aid in the important work of intestinal digestion." No one can help admiring the astute skill with which Dr. Roberts sees his way through a maze not to be successfully unravelled by most minds; and his work of showing how the difficulties to be encountered are to be surmounted and conquered is of priceless value to the different members of the profession in their combat with indigestion.

Before proceeding to utilize the digesting power of the pancreatic secretion, Dr. Roberts has something to say about albuminoids converted into peptones as food. He says, "If you subject any native article of food — say milk, bread, or meat — to artificial digestion with pepsin and acid, you utterly destroy the grateful odor and taste and the inviting appearance which made it desirable as food, and you convert it into a nauseous mess from which the human palate turns away in disgust. The unsavoriness of digested food is, however, not due to any ill taste or smell inherent in the peptones themselves, which, when purified, are both odorless and tasteless, but to a number of by-products of various kinds, volatile acids and other matters, which accumulate as digestion proceeds. One of these by-products is a bitter flavor, which is a constant and noteworthy characteristic of gastric digestion." Certainly, the process of digestion out of the body throws light upon those cases of indigestion which are met with, where the patient complains of bitter taste in the mouth, with heartburn, some time after each meal. It is, then, these "by-products" which are the cause of trouble with many dyspeptics. To deprive the digested mass of these "by-products" and secure pure peptones is a process so costly as to preclude all chance of their coming into general use.

Dr. Roberts then proceeds to describe his method of procuring peptonized milk. If this can be done without materially altering the characters of milk, the problem of feeding dyspeptics and invalids is largely solved. But he finds to *completely* peptonize milk renders it quite unfit for food; though it can be *fractionally* peptonized to the extent of three-fourths of its casein without diminishing its agreeable qualities. After repeated experiments with milk and the liquor pancreaticus, he found "that the milk was wholly peptonized in two hours and a half, that two-thirds of the casein was converted in the first half-hour and three-fourths in the first hour, and that it took an hour and a half longer to convert the remaining one-fourth. In this respect the peptonizing process followed the rule observed in many other ferment actions, namely, that the gradually-accumulating product of the ferment action hampers the operation." He found, too, in peptonizing milk for invalids, that it is absolutely essential immediately to boil the milk when the process has reached the desired point, in order to stop ulterior changes. Making allowances for the varied activity of the pancreatic extracts, which are not always quite alike, he found the following method give good results. "A pint of milk is first diluted with half its bulk of water and heated to about 150° F. It is then put into a covered jug, with a tablespoonful of liquor pancreaticus and twenty grains of bicarbonate of soda (in solution). The jug is then placed in a warm place under a 'cosey' for one hour. At the end of this time the milk is at once raised to the boiling-point. It can then be used like any other milk, and undergoes no further change until decomposition sets in. It is well, however, to know that peptonized milk does not keep well, and that it should be used within twelve hours of the time of preparation. The use of the thermometer may be obviated by directing the milk to be diluted with an equal bulk of *boiling* water." As to the process which goes on in milk so treated, it is found that in about ten minutes the milk thickens and begins to curdle in a soft curd; this phase soon passes away and the soft curds dissolve, and in about half an hour from the commencement the milk has recovered its original appearance. If the process is allowed to proceed, it is found that the milk assumes a grayish shade and its flavor is deteriorated, it becoming bitter and unpleasant to the taste. Consequently it is necessary to raise the temperature of the milk to the boiling-point, and so arrest the process when the proper time arrives.

"Another formula, which supplies a more nutritious product and does not require the thermometer, is the following. To half a pint of cold milk, in a covered jug, add half a pint of well-boiled and *boiling* gruel. This gives a temperature of 120° to 130° F. To this add a dessertspoonful of the liquor pancreaticus and a dessertspoonful of a saturated solution of bicarbonate of soda (which contains about ten grains). Put under a 'cosey' as before, and heat to boiling at the expiration of an hour. In this case the trypsin of the pancreatic extract acts on the casein of the milk, and, I presume, on the gluten contained in the gruel. The diastase of the extract also acts on the starch of the gruel and converts it into sugar. The making of it is exceedingly easy, and it would seem well adapted both for the nursery and the sick-room. The gruel employed should be made thin; it may be prepared from wheat-flour, or from oatmeal, or from any other farina." When a pancreatic extract of constant strength and precise action is procured, it will be easy to time the exact moment when the mixture should be raised to the boiling-point; meanwhile, an hour is about the time to stop the process. If the process be properly performed, the resultant products are as palatable as if they were simple milk-and-water or simple milk-gruel. "But if the process be carried too far, or if, on the other hand, the milk be still partially curdled when put before the patient, the product is not liked, and is even apt to cause nausea."

These experiments and experiences of Dr. Roberts's seem to me to possess a very high practical value, and, indeed, to open up a new vista in the treatment of our worst cases of dyspepsia. How to pass that gulf, the acid stomach, he has shown us lucidly and clearly. Indeed, the combination he describes will probably be further acted on by what gastric juice there is with advantage. In cases—and these are very common—where the gastric juice is poured out in imperfect quantity, and which the late Dr. Leared said were characterized by pain in the stomach after food, this preparation of milk and gruel ought to remove most of our difficulties. Certainly, the prospects of dyspeptics are much brightened by this practical investigation into the digestive ferments and their uses. Not only that, but during fevers and acute inflammations in convalescence, in chronic gastritis, in gastric ulcer (especially), and in gastric cancer in its later stages, such alimentation holds out excellent prospects. So valuable, practical, suggestive a contribution to our therapeutic armamentarium I do not remember to have read for a considerable period of time; and I trust this abstract of it may be serviceable to the readers of the *Times*.

J. MILNER FOTHERGILL.

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THE students of the Medical Department of Harvard number this year 251, distributed as follows: first class, 105; second class, 79; third class, 60; fourth class, 2. Graduates' course, 5.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the hall of the College of Physicians, Philadelphia, November 12, 1879, Prof. Henry H. Smith, President of the Society, in the chair.

Dr. J. A. McFerran read a paper entitled "Tactus Eruditus" (withdrawn by the author).

Dr. E. T. Bruen reported some unusual cases of anasarca. (See page 137.)

Dr. Frederick P. Henry inquired what process had been adopted for counting the blood-corpuscles in attempting to decide the question of anæmia. He understood the lecturer to state that, in the only case in which a count of the corpuscles was made, their number was found to be 4,750,000 per cubic millimetre. Whether this is evidence of the existence of anæmia or not would depend, to a great extent, upon the kind of instrument employed. With Malassez's instrument such a count would be above the normal average, while with Gower's or Nachet's it would be somewhat below it. It is impossible to decide in some cases, from the general appearance of the patient, whether he be anæmic or not. He recalled a case that he had recently examined with Dr. Nancrede, in which an examination of the blood showed that there were only about 3,000,000 red cells per cubic millimetre, while there was an enormous increase in the white cells, their proportion to the red being as two to three. From an ordinary observation no one would have supposed the patient to be anæmic, his face being full, and his cheeks and lips quite red.

He wished also to call attention to the fact that, in the cases just reported, there was a history of intermittent fever, and that the most acute anæmias, with the exception of that form produced by loss of blood, are caused by fevers. The rapid destruction of red blood-cells in febrile conditions is indicated by an increase in the amount of urine pigment which, in common with all the coloring-matters of the body, is derived from the red cells. According to Wagner, there is a twenty-fold increase in the amount of urine pigment in fever; which statement, although vague (fever being a relative term), is sufficient to prove that the increase in all fevers is very great. Dr. Henry also called attention to the fact that iron had entered into the treatment of all these cases, and, taking this fact in connection with their previous history, he was hardly convinced of the non-existence in them of anæmia.

Dr. Henry, in reply to a question, stated that he would explain the presence of red lips in an anæmic patient by the supposition of an uneven distribution of the blood, as it is well known that a poor quality of the blood often coexists with frequent flushing of the face.

Dr. Bruen said that he held in his hand a copy of Nachet's directions for the use of his instrument, in which the average number of red globules is set down at 5,000,000 per cubic millimetre. He would defer to the greater experience of Drs. Henry and Nancrede, but a series of five observations upon healthy individuals showed that in three of them the number of cells was below five millions, even to the extent of two or three hundred.

While the cases reported may have had a slight reduction in the number of the red cellular elements of the blood, there was not sufficient anæmia to account for the dropsy; and he desired to call the attention of the Society to the explanation to which his own mind had been directed by a study of the subject and a few similar reported cases, viz., a diminished vaso-motor tonus in cases where the blood-crasis was not sufficiently at fault to account for the transudation. He believed that this pathology of dropsy had been neglected.

He had used the iron in these cases rather for its effect upon the blood-vessels than for its power of restoring to the red blood-disks the material necessary for their functional activity as oxidizing and, therefore, eliminating agents.

He did not think that the iron in his cases had been a very active agent in the absorption, though in its place an excellent remedy.

Dr. Charles B. Nancrede recalled the fact that the blood-cells in the case referred to by Dr. Henry were only a little over two millions, while the man's appearance was decidedly that of health. The testimony of observers who have used Nachet's instrument is that the average in health is above five millions. This is the opinion of Dr. Keyes also. In referring to the cases whose blood was examined by Dr. Bruen, he said that if they were resident physicians he would not consider that they could be properly taken as instances of healthy individuals. The confinement and the hospital air tend to reduce their physical condition below the standard.

NEW DIETETIC PREPARATIONS.

Dr. M. O'Hara asked the attention of the members of the Society to some specimens of dietetic preparations for the sick that he had found very useful. They are made by the Health Food Company, and consist of mixed cereals, containing a large proportion of gluten, as well as the amylaceous constituents. In one specimen for diabetic diet the starch had been removed. The cereal coffee he had found very useful in dyspepsia. The other preparations make very nourishing dishes for the sick.

In young children he prefers Horlick's Sugar of Malt where there is defective nutrition.

Dr. Carl Seiler said that in the northern part of Germany a preparation similar to this cereal coffee is made, and is generally used as a substitute for coffee. In regard to the Sugar of Malt, he reported that he had used it in a number of cases with good results in the convalescence from typhoid, in phthisis, and in other wasting diseases. He prefers it to cod-liver oil. He did not regard it simply as a food, for he had found that, in overdoses, it produced nervous symptoms—such as dizziness and tinnitus—similar to quinine.

Dr. William B. Atkinson recommended Keasby & Mattison's Infant's Food: as a restorative he had used it with excellent results. He would prefer Mellin's food to Horlick's, but considered them almost identical in composition and manufacture.

Dr. Albert H. Smith reported that he had obtained very good results from the use of Horlick's Sugar of Malt, and his Infant's Food, especially with strumous and rickety children. He preferred the malt in this granulated condition, because the children take it more readily.

REVIEWS AND BOOK NOTICES.

YELLOW FEVER A NAUTICAL DISEASE: ITS ORIGIN AND PREVENTION. By JOHN GAMGEE.

We have fancied that the title of this book savors something of the yarn of the "Nancy Bell." The

"And I'll eat my hand if I understand"

ran continually through our minds as we read the part devoted to the etiology of the disease. The author maintains that the source of the yellow-fever poison is to be found exclusively in ships. Yet thousands of emigrants sail safely to Cuba from Spain dreading the day of the *landing*. Yet there are ships that run safely the gauntlet of an anchorage in Cuban waters, when they prevent the ship-hands from *landing*. It would be a curious thing, a quarantine in Havana with the object of preventing the importation of the disease.

The number of cases in which yellow fever has developed out at sea, *in vessels absolutely free of all contamination from the sea-borders of the Gulf of Mexico*, is so very small that we should conclude that the ships presented the conditions favorable for the development of the poison, such as are habitually met with on the tropical sea-borders of America, rather than to say that the disease always originates on board ship. One circumstance of the greatest importance is frequently overlooked. A ship is said to be not contaminated because it starts from or arrives in a port where there are no cases of yellow fever. The question should be to find out whether there are any persons susceptible to the disease in that port. Evidently this book is "a sketch fashioned and almost written at one sitting," to quote the author!

Fortunately, the opinions of the author have led him to deal especially with the important question of ship-disinfection. How he has discharged this part of his work it is needless for us to say. His labors towards rendering practicable the application of cold to the sanitation of vessels have been appreciated and commended by authorities far more capable of judgment than we are. J. G.

REPORTS TO THE ST. LOUIS MEDICAL SOCIETY ON YELLOW FEVER. By W. HUTSON FORD, A.M., M.D. St. Louis, 1879.

The first part contains a report to the St. Louis Medical Society, by Drs. Ford and F. J. Lutz, a committee appointed by that body. It is divided into five sections:

Section I.—"A detail of cases developed in St. Louis, in persons coming to this city from Southern cities where yellow fever was prevailing." Of course, the scope of the work does not allow of a detailed account of each case; nevertheless, in the majority of them we find a good record of the symptoms of yellow fever. Three of the thirty-five cases are supposed to have had their origin in contagion.

Section II.—"Cases of yellow fever treated at the Quarantine Hospital." Here we find a description of the sanitary conditions of St. Louis previous to the epidemic.

Section III.—"Cases of yellow fever arising in St. Louis, its suburbs, at quarantine, and on board the transport steamer, by contagion from cases developed in persons from points at the South where yellow fever was epidemic." It is, indeed, no easy matter to overcome the arguments presented by some of these cases in favor of the doctrine of contagion.

Section IV.—"Cases, either of yellow fever or closely simulating that disease, arising in St. Louis and its suburbs, without known contact with other cases, or where no such contact existed." These cases originated in places which were in decidedly unhygienic conditions. At Carondelet (suburb of St. Louis) the committee are of opinion that the disease originated spontaneously on account of predisposing hygienic and meteorological conditions. We cannot but object here that Carondelet, equally with other parts of St. Louis, must have been under the same circumstances often before, and, further, note the fact that they were never so thoroughly exposed to infection as in the year 1878.

The St. Louis Medical Society adopted this report by a unanimous vote.

The second part of this valuable work contains a report of Dr. W. Hutson Ford on—

I. "Meteorological conditions and etiology of sunstroke." This is a very carefully prepared account of the relations of sunstroke to the meteorological phenomena in St. Louis during the period extending from 1874 to 1878.

II. The same relations with respect to sporadic cholera.

III. Malarial fevers.

IV. "Etiology of yellow fever." The views of the author may be epitomized thus: that the cause of the disease arises in animal decomposition, more especially excrementitious; that it is not a specific disease, but simply a malignant form of *typhus gravior* (whatever this may be the author says not); and, finally, that it is contagious.

Without finding good grounds for these opinions, we recommend, however, this report to the reader. It contains an elaborate account of the late epidemics and the meteorology of eleven cities of the Union during the years from 1874 to 1878, both included.

Finally, *Part V.* is devoted to a "consideration of the theory and practice of the administration of veratrum viride in yellow fever." J. G.

THE WINTER AND ITS DANGERS. By HAMILTON OSGOOD, M.D. THE MOUTH AND THE TEETH. By J. W. WHITE, M.D., D.D.S. Health Primer Series. Lindsay & Blakiston, 1879.

Under the fostering care of the editor, Dr. Wm. Keen, the Health Primer Series grows apace, and with its growth seems to improve in quality as well as quantity. To our thinking the present volumes leave little to be desired either in matter or in manner. Dr. Osgood does, it is true, appear possessed by an anti-shower-bath demon, but the goodness of his work in general atones most fully for this violent vagary, which indeed adds piquancy to various pages, and, like the lies of Satan, has something of truth underneath it. With the opinions expressed by Dr. White in regard to difficult dentition and the reflex relations of the teeth, we have much sympathy, indeed, full accord. The ignorance or indifference, or the combination of these factors of mischief, concerning dentition and its ills, which prevails among the medical profession, makes the little brochure of Dr. White especially timely. The description of the proper care of the teeth is lucid and evidently based upon sound principles; it will also have the charm of novelty to most doctors. To the profession of medicine Dr. White's book will be as valuable as to the laity, and we most earnestly commend the volume to our fellow-students. The lesson learned from it in an evening can be applied during a lifetime, and an original outlay of fifty cents, if a man lives fifty years, is at the rate of one cent a year with interest. Seriously speaking, we have learned so much from this book with such economy of time as has not often been our lot; and we predict for the volume, in point of circulation, the first place in the series.

GLEANINGS FROM EXCHANGES.

The Local Antagonism of Atropine and Pilocarpine.—Some interesting experiments on the local antagonism of atropine and pilocarpine were recently communicated to the Académie des Sciences by M. Strauss. If one or two centigrammes of nitrate of pilocarpine are injected beneath the skin of a man, at the end of from two to five minutes the skin covering the injected liquid reddens, and then is covered with very fine droplets of sweat, which appear first not at the point of the injection, but at the circumference of the area, and extend concentrically to the centre, finally covering the whole area. This local sweat occurs two or three minutes before the salivation and five or eight minutes before the general perspiration, and it is the more pronounced the greater is the number of sudiparous glands at the spot; the best places being the forehead or front of the sternum; the back of the arm, where injections are most frequently made, being the least favorable, and for this reason, probably, the phenomenon has escaped observation. Reducing the dose, the effect of the injection becomes ultimately strictly local, without the slightest general sweating. Thus, at will, this or that part of the skin may be made to sweat, or lines of sweat may be produced on an otherwise dry skin. The dose with which the effect is purely local is from one to four milligrammes.

By means of subcutaneous injections of atropine the opposite effect may be obtained. If, when a person is in full sweat from the effect of pilocarpine, very minute doses of sulphate of atropine are injected under the skin, the perspiration lessens at the spot almost immediately, and in a few minutes it is totally suppressed. Thus dry areas and lines may be at will produced upon the moist skin. In order to ascertain that the arrest of the perspiration is really the result of the atropine, and not of the mere injection of liquid, an equivalent volume of pure water was injected at certain spots, but without causing any arrest of the perspiration. The dose of atropine which will arrest the sweating is extremely small. One-millionth of a gramme of atropine never failed to produce it in man, and in the cat one-hundred-thousandth of a gramme was sufficient. The sweating skin is thus a test of atropine of extreme delicacy. The sensibility of the sudiparous glands to atropine is greater even than the iris, since the millionth of a gramme of atropine produces no appreciable dilatation of the pupil.

If the skin is frozen with ether-spray, and one or two centigrammes of pilocarpine are injected, the local sweating does not ensue, in spite of the occurrence of general perspiration. Even after the freezing has passed off, the local sweating does not occur, or is brief and slight. Extreme cold appears thus to act as atropine, paralyzing the sweat-nerves, a paralysis which persists even after the local cold and anæmia have passed away. This fact is of great interest in connection with the well-known pathological effect of the arrest of sweat by cold.

The experiments of Luchsinger, confirmed by Vulpian, have shown that in the cat an injection of one or two milligrammes of atropine arrests the sweating caused by a centigramme of pilocarpine, but that if another centigramme of pilocarpine is injected under the skin of one of the paws, the sweat will reappear upon this paw, and nowhere else. In man Strauss has ascertained the same fact. After two centigrammes of atropine had been injected, two milligrammes of pilocarpine were injected half an hour later on another region of the skin. Neither salivation nor general sweating occurred, but merely a local perspiration, very persistent, however, at the point of injection. An attempt was made to ascertain what quantity of atropine rendered large doses of pilocarpine locally inefficacious. In the leg of a strong man six milligrammes of sulphate of atropine were gradually injected, and then, in a single injection, four centigrammes of pilocarpine, without causing even local sweating. In a young cat the same result was obtained after injecting under the skin of the belly three milligrammes of atropine gradually. The subsequent injection into a hind paw of one and a half centigrammes of pilocarpine, and the galvanization of the sciatic after the method of Luchsinger, caused no perspiration upon this paw. —*Lancet*, vol. ii., 1879, p. 474.

Trophic Nerves.—The subject of trophic nerves and trophic nerve-centres appears to be as perplexing as ever, and nothing could well be more remarkable in its way than the diversity of results obtained by investigators in this region of physiology. It may be remembered that a few months ago we recorded (May 10, page 510) an interesting discussion that has recently been going on in Germany upon the effects of section of the pneumogastric nerves on the nutrition of the heart and lungs. The outcome of that discussion appeared to be in favor of Professor Eichhorst's view that the vagi contain trophic nerves to the heart, if not to the lungs, as has been so frequently contended. Meanwhile, this question of trophic nerves has been reopened in the classical region of the fifth cranial nerve, and we are reminded of the many discussions upon "traumatic" *vs.* "trophic" keratitis by similar investigations upon inflammation of the tympanum. It is now nearly two years since Gellé, of Paris, announced that injury to the nucleus of the trigeminus in the medulla oblongata of the dog leads to suppuration within the middle ear of the corresponding side, as well as to affection of the eye and nose. This experiment has recently been repeated by Professor Hagen, with the modification that the trunk of the fifth nerve of one side was cut within the skull by a carefully planned incision, made without opening the head (*Archiv f. Exper. Path. und Pharm.*, xi., 1 and 2, page 39). Thirteen animals were operated on, and Professor Hagen's conclusion is that the inflammation which undoubtedly occurs in a small number of cases within the tympanum supports the view that keratitis, after section of the fifth nerve, is "traumatic," and not "trophic." Still, it is an interesting fact that in three at least out of his thirteen cases the observer found inflammatory signs within the cavity of the middle ear; and we may expect that other physiologists will be disposed to attach more importance to these results than Professor Hagen would appear to have done, and will probably repeat the investigation.—*Medical Times and Gazette*, vol. ii., 1879, p. 451.

MISCELLANY.

The Story of a New Remedy.—Under this title the *Medical Times and Gazette* of November 22 gives an account of the recent *furore* over benzoate of sodium in Germany. It appears to have been a marked case of *Schwärmerei.* A Dr. Kroczak, assistant to Professor P. Rokitansky, published three cases of advanced phthisis, in which patients with large cavities, high fever, and in a state bordering on the moribund, were discharged in a month or two as "cured," with great gain of weight, and disappearance of the physical signs of cavities. The solution of benzoate used was one of five per cent. strength, but no details as to the mode of administering the inhalation, or as to the daily period of using it, were supplied. A few days later, private inquiries, and, later still, a letter from Dr. Kroczak himself to an eager patient, elicited the information that the solution was to be inhaled as spray pulverized by a Seigle's apparatus, for an hour morning and evening. At the same time the patient was to have plenty of fresh air, good meat (one effect of the benzoate being to increase greatly the appetite), and freedom from all depressing influences. The news of the wonderful discovery at Innsbruck spread far and wide in Vienna, and the demand for benzoate of sodium and Seigle's pulverizers soon exceeded the supply. The drug has now been largely tried not only in the General and other Vienna hospitals, but also by family doctors among the sadly numerous class of consumptives in that city; and the *Wiener Medizinische Wochenschrift* affirms, as the outcome of all this ado, that all these experiments "*have failed to yield the slightest favorable result, or a trace of even the most trifling diminution of dangerous symptoms.*"

Great excitement has prevailed in Vienna over this *ad captandum* introduction of a new remedy, and the *Wiener Medizinische Presse* has gone so far as to suggest that Professor Rokitansky should "step down and out." Nevertheless, in spite of this outcry, there is reason for believing that inhalations of benzoate of sodium may arrest septic processes (and there is no doubt that the later stages of phthisis are accompanied with, or dependent on, septic processes) in the lungs. Dr. Schüller, of Greifswald, has found, by experiments upon rabbits, that such inhalations have a markedly beneficial effect on these animals when suffering under the influence of artificially induced tuberculosis. There is reason to believe that benzoate of sodium has markedly anti-bacterial properties, and it is unfortunate that its introduction should occur amid the raging of contending parties.

Unanimo Consensu.—Three medical professors in Lisbon, Bento de Sause, Martins, and Cabral, have published an account of a celebrated case of an exhumed corpse, to decide whether the deceased had hung himself or had been strangled. The three experts mentioned declared for the latter alternative, but found ardent opponents in three members of the faculty of Coimbra, according to whose declaration the jury acquitted the defendant.

The professors at Lisbon applied in a joint letter to experts in medical jurisprudence in all countries of Europe, gave them the matter at issue, and asked them to give their opinion. The physicians asked were Hoffmann, of Vienna; Aloys Martin, of Munich; Guillery, of Brussels; Gaedeken, of Copenhagen; Bergeron and Tardieu, of Paris; Pallis, Geonganlas, and Arphanides, of Athens; y Vivo, of Barcelona; y Mendoza, of Cadiz; Yanes, of Madrid; de Myer, of Utrecht; Bristowe, Crosby, and Taylor, of London; Romati, of Bologna; Lazzaretti, of Padua; Pacchiotti, of Turin; Herberg, of Christiania; Mando and Pinto, of Coimbra; Vianna and Pitta, of Lisbon; Osonio, of Ponto; Liman, of Berlin; Tchitowitsh and Lenz, of St. Petersburg; Jaederholm, of Stockholm; Gurmert, of Bern. The answers from all these experts agreed that the party concerned "must be considered to have been strangled." Such a unanimity is both interesting and of importance, proving the high development of the science of forensic medicine.—*Hospitals-Tidenden: Buffalo Med. and Surg. Journ.*

Oil of Eucalyptus in Bronchitis.—Having employed this oil in eight or nine cases of bronchitis with most excellent results, I would recommend a fair trial of it. In chronic bronchitis, in asthma, and in the advanced stages of ordinary severe colds, its influence has seemed to be very pronounced for good. It differs from most balsamic remedies in acting also as a narcotic and allaying cough. Twenty drops of it should be given in emulsion four times a day. In asthma it has in one case relieved the paroxysms after failure of ordinary remedies.—H. C. W.

In an editorial upon the discovery of the "Difference between Typhous and Typhoid Fever," the *Medical Press and Circular* gives full credit to the late Dr. Gerhard, of this city. After stating that Dr. Stewart's Memoir was published both in Paris and London in 1840, it says, "Gerhard and Pennock, of Philadelphia, had, simultaneously with Stewart, arrived at similar views, and their observations were published in the *American Journal of the Medical Sciences* in 1837. Thus, in time of publication, they were actually before Stewart, whose work was quite independent, who had begun it in 1835, when the distinction was made known in the Glasgow Fever Hospital."

A Sensible Memorial.—Surgeon-Major Shepherd, of the British army, was killed at Isandula while trying to save a wounded comrade's life, and the funds raised to do honor to his memory have been given to Aberdeen University (Dr. Shepherd having been born in that shire) for the foundation of an annual gold medal for surgery.

Professor Erasmus Wilson seems well endowed with the ability and desire to donate munificently. He has offered the sum of one hundred thousand dollars, or as much as may be required, to the Court of Directors of the Margate Sea-Bathing Infirmary for Scrofula, for the erection of a new wing containing wards for nearly seventy patients, a tepid sea-water swimming-bath, and a chapel containing seats for three hundred people.

Balsam of Peru in Pruritus.—Dr. Auerbach, of Berlin, has for some time past treated pruritus by balsam of Peru with the greatest success. After the first rubbing into the part affected, great relief is obtained, and in a few days a cure results.—*Medical Times and Gazette*, Nov. 8, 1879.

NOTES AND QUERIES.

New York State Lunatic Asylum,
Utica, N.Y., November 18, 1879.

H. C. Wood, M.D.,
Editor *Philadelphia Medical Times:*

Dear Doctor,—The enclosed correction of a false statement and unjust criticism contained in the *New York Medical Record* of October 11, 1879, was sent to that journal for publication on October 13. After four numbers of the *Record* had been published containing no notice of the communication, a letter was sent to the editor, with a stamp enclosed, asking if the communication had been received; but no attention was paid thereto, although a fifth number of the journal has since appeared.

In view of this unfairness and discourtesy, may I ask the insertion of this letter and the accompanying correction in your journal?

Very respectfully yours,
Theodore Deecke,
Special Pathologist.

Utica, N.Y., October 13, 1879.

To the Editor of the Medical Record:

The comment upon the Thirty-Sixth Annual Report of the Managers of the State Lunatic Asylum, Utica, N.Y., in the issue of your journal, October 11, 1879, contains a statement which, if not corrected, can but mislead every reader who has not the opportunity of examining the report personally.

On page 352, in speaking of the pathological part of the report, you use the following language:

"*Considerable space is given to a description of apparatus with which every microscopist is familiar. . . .*" This is neither correct nor just. The instruments described in the report are throughout original, and devised by the undersigned for the special purposes indicated in the report. Their existence is known and appreciated only by members of the profession who have visited the pathological laboratory of the asylum during the last two years. Each part of the apparatus described in the report is novel, and no microscopist, either in this country or abroad, can possibly be familiar with their use except those who have seen them here in operation.

It is not improper to remark that any one who undertakes the office of scientific critic should at least be just, and, if he attempts such a review, should give what the author really says, instead of what he supposes the author ought to say.

Yours,
Theodore Deecke,
Special Pathologist, N.Y. State Lunatic Asylum.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM NOVEMBER 30 *TO DECEMBER* 13, 1879.

Brown, H. E., Captain and Assistant-Surgeon.—When relieved by Assistant-Surgeon Middleton, to report to the Commanding Officer, Fort Duncan, Tex., as Post-Surgeon. S. O. 252, c. s., Department of Texas.

Taylor, M. K., Captain and Assistant-Surgeon.—Granted leave of absence for one month, with permission to go beyond limits of the Department and apply for an extension of one month. S. O. 251, Department of Texas, November 28, 1879.

Cleary, P. J. A., Captain and Assistant-Surgeon.—To report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 271, A. G. O., December 2, 1879.

Middleton, P., Captain and Assistant-Surgeon.—Assigned to duty as Post-Surgeon at Post of San Antonio, Tex., and to relieve Assistant-Surgeon M. K. Taylor as Attending-Surgeon at Department Headquarters. S. O. 252, Department of Texas, November 29, 1879.

Kimball, J. P., Captain and Assistant-Surgeon.—When relieved from duty at White River, Col., to proceed to Fort Sanders, Wyo. T., and resume his duties as Post-Surgeon. S. O. 111, Department of the Platte, December 6, 1879.

De Witt, C., Captain and Assistant-Surgeon.—To resume his duties as Post-Surgeon, Fort Sidney, Neb. S. O. 111, c. s., Department of the Platte.

Carvallo, C., Captain and Assistant-Surgeon.—To accompany troops ordered from Rawlins to Fort Laramie, Wyo. T., and there take post. S. O. 109, Department of the Platte, November 29, 1879.

Elbrey, F. W., Captain and Assistant-Surgeon.—Assigned to duty at Fort Bayard, N. Mex. S. O. 238, Department of the Missouri, November 28, 1879.

Hoff, J. V. R., Captain and Assistant-Surgeon.—Granted leave of absence for one month, with permission to apply for an extension of two months. S. O. 270, A. G. O., December 1, 1879.

Comegys, E. T., First-Lieutenant and Assistant-Surgeon.—When relieved by Assistant-Surgeon Brown, to report as Post Surgeon to the Commanding Officer, Post of San Diego, Texas. S. O. 252, c. s., Department of Texas.

Appel, D. M., First-Lieutenant and Assistant-Surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 241, Department of the Missouri, December 2, 1879.

Smith, R. E., First-Lieutenant and Assistant-Surgeon.—His resignation accepted by the President, to take effect April 1, 1880. S. O. 271, c. s., A. G. O.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JANUARY 3, 1880.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON PNEUMONIA, HÆMATEMESIS OF DOUBTFUL ORIGIN, AND ATROPHIC PULMONARY EMPHYSEMA.

Delivered at Bellevue Hospital, New York,

BY PROF. AUSTIN FLINT, SR.

Reported for the *Philadelphia Medical Times.*

PNEUMONIA.

IN introducing the present case to you, gentlemen, I would call your attention, in the first place, to the flush which is observable upon the patient's face. It is not by any means as well marked as is sometimes the case in the same disease, but none of you, I think, will have any difficulty in making out that it is distinctively circumscribed. In this respect it differs from the flush seen in typhoid and other continued fevers, in which the coloring of the cheeks extends over a much larger area and shades off much more gradually. The significant point about it is that it is a pretty good diagnostic sign of one particular disease; and if, therefore, the supposition of hectic be excluded, very fair evidence is afforded by it that this man is suffering from that disease, which may be designated either as lobar pneumonia or pneumonic fever, according as you prefer to call it.

I will now proceed to read the history of the case, and, in connection with this, I will ask your attention particularly to the following points of interest:

The situation in which the trouble in the lung commenced.

The progress of the disease.

The fact that the affection went on to a certain point in the way towards recovery without treatment.

The effect of treatment after admission to the hospital.

The prognosis.

The patient is a man of 40, who was admitted here the day before yesterday. He has always enjoyed good health, with the exception of an attack of acute articular rheumatism four years ago, which lasted for about seven weeks. He does not think that there was any cardiac complication of the disorder; and there is at present no evidence whatever of any organic trouble about the heart. Two weeks and two days before admission it seems that he entered upon a six days' walking-match in Philadelphia, and during the course of this he succeeded in making three hundred and eighty miles. At the end of the contest he felt perfectly well, but on the day following its conclusion drank pretty freely. During the next three days he felt moderately well, but was not in his usual good health, and on the fifth day after he ceased walking he was seized with a severe chill, from which occurrence we may date the onset of the pneumonic attack. Then there was pain in the side (in the region of the right nipple), which is also one of the initial symptoms of pneumonia, as you know; and also fever, thirst, constipation, and expectoration, the latter being at first white, and afterwards more or less discolored with blood. On the fifth day after the chill he felt somewhat better, and came over to New York; but up to the time of his admission to the hospital he took no medicine whatever, with the exception of one dose of some cathartic agent.

When he was admitted the day before yesterday he seemed to feel pretty comfortable. When an examination of the chest was made, there was found to be dulness on percussion on the upper part of the right lung in front, while behind there was dulness on the whole upper lobe, as well as the upper part of the lower lobe. There were, in addition, the ordinary signs of pneumonic consolidation in these localities, and a certain amount of febrile reaction. The urine was found to contain a slight trace of albumen.

On the morning after admission (that is, yesterday) the temperature was 103½°, and at half-past eleven fifteen grains of sulphate of quinine were administered. By five P.M. the temperature had fallen to 102½°; and it seems altogether fair to attribute this favorable result to the full dose of quinine, inasmuch as in this affection we would naturally look for an exacerbation of the fever in the evening. If we make allowance for this increment, therefore, it is quite probable that the temperature was in reality reduced more than one degree by the remedy. On this day it is noted that retention of urine occurred, and that at four P.M. sixteen ounces of high-colored urine were withdrawn by means of the catheter.

No subsequent dose of quinine was given yesterday; but this morning two doses, of ten grains each, have been exhibited, and we now find (two P.M.) that the temperature is 101°. A certain amount of whisky has also been given for the first time to-day. Although the temperature is materially lower than it was then, the patient does not feel so well to-day as he did yesterday; and this morning I learn that he was troubled with vomiting. Let us now see what is the present condition of the chest, as revealed by the physicial signs. Over the upper lobe of the right lung we find that there is dulness on percussion, and that, although this is marked, it by no means amounts to flatness. When the ear is applied here, we get a few redux râles, as they are called, and find that the respiration is broncho-vesicular in character; which shows that there is still a certain amount of pulmonary consolidation remaining. This is also indicated by the increased vocal resonance and by the bronchophonic whisper present; while there is not a sufficient solidification to give rise to bronchophony or purely bronchial respiration. On the upper part of the lower lobe behind we get the signs of a more complete consolidation; and it is interesting to note the further extension of the process here in connection with the decrease of the temperature that we have remarked and the receding signs found above.

What, then, has been the course of the disease in the lung in this case? It evidently first affected the upper lobe, which, as you know, is an exception to the general rule in pneumonic inflammation. When five days had elapsed, the local affection subsided (without any medication), and the patient felt so much better that he started on a journey, as we have seen. In this connection I may remark that I have observed many cases (quite a number of which I have reported) which seem to go to show that exertion and exposure in pneumonia do not ordinarily cause any increase of the disease. Here, however, it is fair to suppose that there has been a second and more recent development of trouble in the lung. Still, the inflammatory process may even yet not spread throughout the entire second lobe. The rule in pneumonia is that if only one lobe is at first attacked, the whole of it becomes affected; but if subsequently the disease extends to a second lobe, only a portion of it is involved. At present the affection, as indicated by the physical signs, is in the stage of resolution in the upper lobe, and in the stage of consolidation in the lower one. Judging from a local stand-point, therefore, we infer that there have been two successive invasions of the disease.

Therapeutically, also, this case presents a number of points of interest. In the first place, as we have seen, the patient did well for five days without any treatment whatever, with the exception of a dose of cathartic medicine; and this is by no means an unusual case in this respect. But at the time of his admission a secondary attack was becoming developed, with a considerable increase of temperature. (You will remember that it was 103½° yesterday morning.) Quinine in full doses had the effect of markedly reducing this; and here I should like to say that, in this hospital, I have noticed the above result over and over again. But more than this. Not only have I seen quinine act in this prompt manner as an apyretic, but I have also not infrequently observed that it actually cut short the attack. In a certain proportion of cases, therefore, I concluded that it acts as an abortive agent. A few cases of pneumonia occur, indeed, in which the disease aborts naturally; but I believe that the experience of every observer goes to show that this number is exceedingly small. Yet, although we cannot always, of course, expect this desirable result from the use of quinine, and although in certain instances it may, perhaps, not be of any benefit at all, as far as we can judge, there is this to be said about it,—that, even if it does no good, it does no harm whatever, beyond occasionally producing a little cinchonism. The chances, however, are all in favor of its being of service in any case in which it may be employed; and therefore I desire to impress upon you the importance of never neglecting to resort to this agent, in full doses, in pneumonia. To-day, as we have learned, twenty grains of quinine have been administered in this case; and I believe that the patient at present requires fully as much as this in the twenty-four hours, notwithstanding the fact that the temperature is now comparatively low.

It will be an interesting point here to note whether the disease will spread throughout the lobe which is now partially affected by it, or whether it will stop short of this. The pulse, I find, is now only seventy-eight, and that certainly does not seem to indicate a long-continued attack of pneumonic fever; but still we cannot decide positively as to this beforehand. Just here I might pause for a moment to speak of the relation between the pulse and the temperature in disease in general. Although this in the majority of cases may be pretty constant, we occasionally meet with instances in which we should be very greatly misled if we took it for granted that because one is but little different from normal, this is the case with the other also. Thus, I remember one instance in which, finding that the pulse was not at all accelerated, I supposed that there was no fever present, but yet, happening to test the temperature, I found that the thermometer indicated 102°.

The heart's action, I am glad to say, is very good indeed in this patient (which may perhaps be due in part, at least, to some digitalis which he is at present taking), and this, I need hardly mention, is a most important point. I do not hesitate to state that I am of the opinion, with the greater number of observers, that an ante-mortem heart-clot does sometimes form in various diseases (especially pneumonia), and that it is this accident which not infrequently is the immediate cause of death. It is quite possible that the unusually low pulse in this instance, as well as the good condition of the heart, may perhaps also be partially due to the digitalis that is being given. With the administration of quinine, digitalis, sufficient stimulus, and appropriate nourishment, every indication in this case is, I believe, at present fulfilled, and there seems to be little room for doubt that the patient will do well.

HÆMATEMESIS OF DOUBTFUL ORIGIN.

Our next patient is Catherine M., who is 30 years of age, and a domestic by occupation. She is married, and is the mother of four children. The family history is unimportant. She has suffered from a form of retinitis, and her field of vision is much contracted in consequence. In 1873 she had some kind of a fever, the exact nature of which cannot now be determined, and it was six months before she recovered from the effects of this. From that time her health remained good up to last October (six or seven months ago), when she began to suffer from pains in the right hypogastric and lumbar regions, and these still continue to a greater or less extent. About the latter part of February (two months since) her stomach became very irritable, and since then she has continued to throw up almost everything that she has taken. She was admitted two weeks after the latter trouble commenced, and during her residence in the hospital there have been but three days in which she has not vomited. All the pain that she has now is in the lower part of the abdomen. There is none at all in the stomach, but she complains of a burning sensation in the region of that organ. Another feature of the case is marked diarrhœa. The article that the patient can retain best on the stomach is pure whisky; but even this she sometimes throws up. A great variety of remedies have been tried unsuccessfully here for the control of the vomiting, among which may be mentioned ice, oxalate of cerium, wine of ipecacuanha, nitrate of silver, jaborandi internally, and mustard and blisters externally.

I doubt not that in your future practice you will meet with many cases of women in which you will find this history repeated in your own experience. In all such cases let me put you on your guard, in the first place, against overlooking one condition, and that is uræmia. As chronic vomiting is one of the milder signs of uræmia, you should never omit to make an examination of the urine. Here the urine has been repeatedly tested for albumen, and found to contain none, and we must therefore look for some other cause for the gastric trouble. It is possible that it may be purely functional, and it is well to remember that this sort of functional vomiting is not infrequently met with in young women. It is apt to be associated with hysteria, and in such cases it would seem at first sight that everything was vomited, since the food taken does not apparently stay down a moment; but on more careful investigation it will be found that some portion of it, at least, is retained. Invincible anorexia is usually found in connection with this condition. Now, is the present one of the kind just described? There is one thing opposed to such a hypothesis, and that is, that the patient has vomited blood.

A hemorrhage from the stomach is not apt to take place without there being present some serious pathological condition. It would here suggest gastric ulcer. Cancer we should exclude in this case, both on account of the age of the patient and the absence of the characteristic cachexia, as well as the physical signs of such trouble. If she could retain certain articles of diet, and especially those of a very bland nature, it would be strongly confirmatory of the diagnosis of ulcer; but, on the contrary, it is undiluted whisky that she can keep down better than anything else. As a general rule, all forms of stimulus are contra-indicated in ulcer of the stomach; and this is a point, therefore, against the existence of this pathological condition. Another point opposed to it is the absence of localized pain of a gnawing character, which is almost always connected with ulcer. There is, in fact, but one symptom that gives strong evidence in favor of this, and that is the hæmatemesis.

Since this is the case, let us next inquire if there are any other conditions which would be likely to give rise to gastric hemorrhage. In this connection may be mentioned cirrhosis of the liver; but there is no evidence whatever of such an affection here, and it would seem decidedly best, therefore, to refrain from committing ourselves to a positive opinion concerning the case at present.

In the mean time, what shall we do for the patient? As there is so much irritability of the stomach, she can hardly receive by it the nourishment which her system requires. The indication is, therefore, to allow the stomach perfect rest for a time, and sustain the patient by appropriate food introduced into the system in some other way. Of course the rectum naturally suggests itself as the avenue through which this is to be accomplished; but, unfortunately, in this case the lower bowel, contrary to the general rule, is quite intolerant of any such interference, and consequently rectal alimentation cannot here be successfully resorted to.

ATROPHIC PULMONARY EMPHYSEMA.

Our last patient is Mary B., a widow, 46 years of age, who was admitted just a month ago. Her family history is indefinite, and she herself always enjoyed good health up to one year ago, when she began to have a cough, with some pain in the chest. During the last six months the symptoms have grown more severe. She has begun to have expectoration with the cough, and the latter has become paroxysmal in character. These paroxysms last from five minutes to half an hour, and give rise to quite marked dyspnœa. The respiration is of an asthmatic nature. There are no symptoms referable to the stomach or intestines, and the urine, which has a specific gravity of 1012, contains no albumen.

On inspection, you will notice how prominently the sterno-cleido-mastoid muscles stand out. There is present the fixedness, but not the rotundity, of the chest ordinarily characteristic of pulmonary emphysema. We have, indeed, the signs and symptoms of that condition, with certain differences from the common form of it which go to show that this is the senile or atrophic variety. As a rule, in emphysema there is enlargement of the chest, which assumes the peculiar "barrel shape" indicative of the condition; but here the patient's chest is not only not at all enlarged, but is even somewhat diminished in capacity. In other words, it is a case of emphysema due to atrophy of the cell-walls in the lung, in consequence of which several vesicles become thrown into one. I would call particular attention to the physical signs present, and the sound of breathing here, because a case of this kind, unless examined with care, will be very likely to be mistaken for one of phthisis. The inspiratory sound is shorter than normal, and the expiratory somewhat prolonged; but the latter is always of a lower pitch than the former, as is the case in health. On making percussion over the chest we get unusually clear resonance on both sides, which is really vesiculo-tympanitic in character. In most cases this is more marked at the left apex in front than at the right, but here the reverse is true. The cough accompanying emphysema of either of the varieties I have mentioned is of a spasmodic character, and expectoration is performed with difficulty. If you will only bear in mind the physical points belonging to emphysema, you will never have any difficulty in distinguishing a case like this from one of phthisis.

The patient is taking iodide of potassium for the relief of the bronchitis present, which is here (and not the emphysema) the cause of the cough. The râles met with in this, I may say, are somewhat peculiar, being dry in character, and resembling the crepitant râle to some extent, although not quite so fine in sound as that. Laennec discovered a dry râle in emphysema, which he considered diagnostic of that affection; but later observers have differed with him in regard to this point. The present case, as it appears to me, would seem to offer a certain amount of evidence confirmatory of Laennec's opinion.

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ORIGINAL COMMUNICATIONS.

THE PHYSIOLOGICAL ACTION OF APOMORPHIÆ HYDROCHLORAS.

BY EDWARD T. REICHERT, M.D.,
Demonstrator of Experimental Therapeutics, University of Pennsylvania.

Abstract from Inaugural Thesis, March, 1879.

(Continued from page 137.)

ON THE RESPIRATION.

THE effect of apomorphine upon the respiration-rate of mammals (rabbits and cats) is to cause an increase, which is very variable as to extent. In six dogs there occurred an average increase of fourteen respirations per minute; in one rabbit, an increase of sixty; and in one cat, an increase of thirty-six per minute. This increased respiration-rate is sometimes followed by a diminution to below the normal. In frogs I have never observed increased respiration as it occurred in mammals, but invariably a decrease.

Harnach (*loc. cit.*), who has made a special study of the action of toxic doses upon the respiration-rate, says that before convulsions it is enormously increased. This has not been the result in a single instance in any of my experiments. Seibert (*loc. cit.*) says that in dogs there is a continuous diminution of respiration-rate, even to half of the normal frequency. He further states that he cannot account for it.

The increased respiration-rate which occurs in mammals is independent of the act of vomiting, as is shown by the fact that the respirations are increased whether the vomiting be present or not; also by the fact that the increase is very marked in rabbits, which cannot vomit. The next point of investigation was to observe the effect on animals in which the vagi nerves were cut.

In two dogs and three cats thus operated upon, there was no increase of respiration-rate.

In rabbits it was found that the increase occurred even after section of the vagi nerves.

Harnach also observed increased respiration-rate in rabbits after the vagi nerves were cut. It seems rather peculiar that in dogs and cats, after section of the vagi, no increase of respiration-rate occurs, while in rabbits the increase is so very marked. The evident reason of this exceptional action on rabbits is given in the following conclusions: the increase of respiration-rate which occurs in normal dogs and cats must be due to a stimulation of the peripheral vagi nerves, since the increase does not occur after section of those nerves; on rabbits the action must be a stimulation of the centres, since the increase is as evident after section of the vagi nerves as previous to it.

If the drug is given in toxic doses, or if large doses are thrown in upon the respiratory centres, a failure of respiration results, which must be due to a paralysis of those centres. To cause this effect when the drug is thrown in upon the respiratory centres, the dose must be large and in concentrated solution.

ON THE TEMPERATURE.

Several investigators have made observations with this drug upon the temperature:

Zolkowski (*Apomorphin*, Inaug. Diss., Greifswald, 1872) found that large doses caused a fall of temperature of from .1° to .5° Cent.; Moerz (*Präger Vierteljahr.*, Bd. 115, p. 82, 1872) found in a man a rise equal to .2°; Bourgois (*loc. cit.*) asserts positively that no change is produced; Pierce (*Brit. Med. Jour.*, p. 204, i., 1872), in an observation on a boy aged eight years, found the "temperature-variation unimportant;" Seibert (*loc. cit.*), in his experiments, sometimes found an increase, sometimes a lowering, and sometimes no change whatever. In dogs he found a tendency to increase of temperature, especially after severe vomiting; but this was always followed, without exception, by a distinct lowering. He does not ascribe this effect to any peculiar action of the drug, but thinks the action like that of tartar emetic and ipecac.

The results of my own experiments, which were seven in number, show that when the drug is given subcutaneously there invariably occurs a rise of temperature, varying from .2° to .9° C., followed by the decrease, varying from .5° to 1.9° C. The increase never occurred in the four experiments in which the injections were intravenous, excepting in one instance, in which there was a rise of .05° C. occurring immediately after the injection, and which in all probability was not due to any specific action of the drug itself. The failure of rise after intravenous injection is probably due to an excessive action of the drug thrown at once into the circulation; and it suggests that the probable action of the drug is primarily a stimulant and secondarily a depressant to centres which probably preside over the maintenance of the bodily temperature. When injected intravenously, the stimulating action is lost in the more powerful depressing effect, the greater portion of the drug reaching the centres, which, instead of slightly irritating, as would be the effect of a very small quantity, it at once depresses.

ON THE MUSCULAR SYSTEM.

The action of apomorphine upon the voluntary muscular system, whether locally applied or administered through the circulation, is that of a depressant. This fact is denied by Quehl (*loc. cit.*), who asserts that this drug has no such action. Harnach, however (*loc. cit.*), in his very careful experiments, arrived at a different result.

My observations, made with apomorphinized muscles on the myograph, show an unmistakable loss of functional power, followed by complete paralysis.

I have made further observations on frogs, by exposing the gastrocnemii muscles. The weakest galvanic current was then found that would cause contraction of those muscles. On one side the muscle was painted with a solution of apomorphine, while on the other side the muscle was left in a normal condition. The relative irritability of the two gastrocnemii was then compared by means of the galvanic current, and it was found that after the poisoned muscle would not respond to powerful stimuli the normal muscle still retained its normal contractility.

The action on the *involuntary muscles* is identical with that on the voluntary. Harnach (*loc. cit.*), in his experiments on frogs, found that if the dose was large enough, paralysis of the heart occurred, which is confirmed by my experiments (see "Blood-Pressure"). The fall of pressure is due to a depressant action of the alkaloid upon the heart-muscle. I have also found that the drug applied to the excised hearts of frogs at once arrests the pulsation.

Autopsies of animals dying from this poison show that the heart is either paralyzed or but slightly irritable and full of blood.

The effect upon the muscular coat of the *intestines* is the same as that upon the heart, though not so powerful. When the drug acts through the circulation, the effect is not so striking; but when applied locally, either pure or in strong solution (.05 gram. to 1 cc. water), the paralytic effect is marked.

ON THE GLANDULAR SYSTEM.

The action of apomorphine upon the *salivary glands* is one of the first symptoms after the administration of the drug in any method, and is usually manifest within from one to three minutes after injection. The increase of salivary secretion is in some cases extremely marked, the saliva running from the mouth in almost a constant stream. Seibert (*loc. cit.*) states that in his experiments the secretion of saliva was not more profuse than from the effects of other nauseants. I find a contrary result in very many of my observations.

In reference to the effect on the *secretion of the skin*, I am unable to give any positive facts. Seibert (*loc. cit.*), M. Chouppe (*Gazette Hebdomadaire*, December, 1874), and other investigators have observed perspiration, more or less in degree, occur in the human being.

Upon the *urinary and intestinal secretions* I have not been able to detect any decided action.

The *secretion of the stomach* is very markedly increased in some instances. After the contents of the stomach are evacuated, the vomit which follows is clear and watery, and occasionally very copious, varying, however, very considerably as to quantity. Occasionally the vomit is tinged with bile. I have never observed any noticeable action on the secretion of bile.

ON THE STOMACH.

The time required to produce emesis in dogs varies from two to nine minutes, the interval between the time of injection and the first act of vomiting having no relation to the size of the dose. The average duration of the interval in twenty experiments made in reference to this particular was five and a half minutes, the shortest interval being two minutes, the longest nine minutes. Large doses do not cause a greater intensity of the emesis, but quite the contrary if the dose is very large. Doses of .06 gram. are no more effectual or prompt than those of .01 gram. or .005 gram., or even considerably smaller. Vomiting does not occur when the drug is injected intravenously, unless the dose is less than .005 gram. (twenty-five experiments made). When the drug is given by the mouth and stomach the effect is very prompt; the interval is slightly longer than when the drug is given subcutaneously.

The act of vomiting taking place whether the drug is given by the mouth or through the circulatory system shows that the effect is not due to a local action on the stomach. In order to prove this point fully, by further showing that the emesis was not the effect of an effort at elimination through the stomach, I made the following experiment, in which the thoracic aorta was ligated, thereby excluding the supply of blood to the stomach, showing, by the result of this experiment, that if vomiting did occur the action of the drug could not be that of an effort at elimination causing stimulation of the peripheral gastric nerves.

Exp. CXLIX.—8.30 A.M., ligated the thoracic aorta of a dog; 9.00, gave a subcutaneous injection of .01 gram. in the anterior portion of the body; 9.03, vomiting; 9.04, vomiting repeated. The dog was then killed, and a post-mortem examination made. The ligation was found to be perfect. A careful examination was made, to see if any anomalous branches of blood-vessels ran from a point above the ligature or from the diaphragm to the stomach, but none were found. The occlusion of blood from the stomach was, therefore, perfect. The vomited matter was carefully tested for apomorphine with chloride of gold, but none of the alkaloid was found to be present.

The conclusion that the action of apomorphine is upon the vomiting centres in the medulla oblongata is further verified by the fact that the larger doses (.06 gram.) are not nearly so efficient as the smaller ones (.005 gram.) in producing vomiting. It would seem as though in small doses the drug acts as a stimulant, but in large doses as a depressant, to the vomiting centres.

Quehl (*loc. cit.*) says that after section of the vagi nerves apomorphine is powerless to produce emesis, thereby asserting that its action is upon those nerves. Seibert (*loc. cit.*) asserts that vomiting does occur after section of these nerves. Now, even did Seibert not give this contradictory evidence, the experiments of Quehl would signify but little, since vomiting is a rare occurrence after section of the vagi nerves: therefore any conclusions founded upon negative results of such experiments are valueless.

ELIMINATION.

Apomorphine is probably eliminated by all of the secretions. I have found it in the urine, saliva, and matters vomited. Even after the administration of very small doses, .002 gram. ($\frac{1}{30}$ grain), distinct evidence was found in the urine of its presence. The best mode of detecting it is by means of a solution of chloride of gold, which gives a purple precipitate. It will be remembered that the salts of tin are the only substances heretofore discovered which would give a purple precipitate with this salt. The precipitates produced by apomorphine and the tin salts may be discriminated by the following means. If a solution containing the reaction of apomorphine be boiled, it will gradually grow darker in color, and finally a dark brown; the precipitate of the tin salts does not change color when it is boiled. This test is a very delicate one; a quantity as small as .0005 gram. in 15 cc. of water can be detected without any difficulty, if the suspected solution into which the chloride of gold is placed be allowed to stand for a few hours. The purple precipitate is quite marked after the lapse of twenty-four hours.

I have found distinct evidences of apomorphine in the matters vomited two minutes after a subcutaneous injection. I have found it in the urine after the lapse of five minutes; thus showing that the drug is very rapidly eliminated from the system.

ON THE PUPIL.

Nearly all observers have noticed, in their papers upon this subject, that apomorphine causes a dilatation of the pupil. Dilatation is the general rule, although in two of my experiments there was a marked contraction. Locally applied, the drug has no effect on the pupil.

In a number of experiments to determine the way in which this effect is produced, it seems certain that it must be due to an action upon the motor-oculi centres; for, were the action on the motor-oculi peripheries, dilatation should occur from a local application of the drug to the conjunctiva. Again, after exposure of the motor-oculi nerve galvanization of the trunk causes contraction of the pupil, showing that the action must be centric. The drug may have some slight stimulant action on the sympathetic nerve, but it must be one of no importance, for even after section of this nerve in the neck dilatation still occurs. Paszkowski (*loc. cit.*) believes the dilatation of the pupil to be due to an action on the sympathetic nerve, because the dilatation is present whether the vomiting occurs or not. This is certainly an unjustifiable conclusion.

CONCLUSIONS.

The following is a summary of the most important of the conclusions scattered throughout my paper, and which have been derived from a study of the results of over two hundred experiments:

1st. That when locally applied it is a depressant to all the highly organized tissues of the body.

2d. That upon the cerebrum it is primarily a stimulant, secondarily a depressant.

3d. That the sensory nerves are paralyzed, the paralysis being progressive from the periphery to the centre.

4th. That the motor nerves are primarily stimulated, secondarily paralyzed.

5th. That the loss of voluntary motion is due to narcotism.

6th. That the loss of reflex activity is due to a paralysis of the sensory nerves and a stimulation of the inhibitory reflex centres of the spinal cord.

7th. That the convulsions are principally spinal, and due to a paralysis of the inhibitory reflex centres of the spinal cord.

8th. That the motor conducting tracts are paralyzed before the motor nerves succumb.

9th. That the hyperæsthetic condition which is sometimes observed to exist after the total abolition of reflex activity is due to a depression of the inhibitory reflex centres of the cord.

10th. That the increase of pulse-rate is due to a stimulation of the accelerator fibres of the vagus, and the decrease to a depression of the heart-muscle.

11th. That the increase of respiration-rate in dogs and cats is due to a stimulation of the peripheral vagi nerves, and in rabbits to a combined stimulation of the vagi centres.

12th. That the primary and secondary fall of blood-pressure is due to a direct depressant action on the heart, and the temporary rise to a stimulation of the vaso-motor centres in the medulla.

13th. That the temperature is primarily increased, secondarily diminished.

14th. That both the voluntary and involuntary muscular systems are depressed and, finally, paralyzed.

15th. That it is a cardiac depressant.

16th. That the secretion of the salivary glands is markedly increased.

17th. That the emesis is due to a stimulation of the vomiting centres in the medulla oblongata, and that the drug acts primarily as a stimulant, secondarily as a depressant to these centres.

18th. That absorption takes place very rapidly through all parts of the body.

19th. That it is probably eliminated by all the secretions, and that the elimination takes place rapidly.

20th. That the most characteristic test is the solution of gold chloride, which gives a purple precipitate, which may be distinguished from the reaction with a tin salt by the precipitate changing to a brown when it is boiled.

21st. That the dilatation of the pupil is due to a paralysis of the motor-oculi centres.

22d. That there are no characteristic lesions found after death.

In nearly twenty autopsies I never found, in a single specimen, the slightest evidence of the hyperæmia of the pons varolii which Quehl states to be a characteristic lesion.

CASES OF POISONING,—ONE BY ATROPIA, ONE BY OPIUM, AND ONE BY QUININE.

BY D. W. PRENTISS, A.M., M.D.,
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CASE OF POISONING BY ATROPIA.

MAY 31, 1879, 4 o'clock, P.M., a male infant, 19 months old, got hold of a bottle of atropia sulph. sol. (gr. i. to f℥ss), and drank nearly the whole of its contents. Half an hour later it was seen by Dr. J. F. Winter, who gave sulphate of copper as emetic, producing free emesis twice, and followed it by eight drops of deod. tinct. of opium.

Condition when he saw the child,—entire surface bright scarlet, violent delirium, constant and violent spasmodic actions of the limbs, widely-dilated pupils, intense restlessness. I saw the case in consultation an hour later, when the condition was the same as above, except that there was marked muscular rigidity, with drawing-in of the thumbs and great toes, especially on the right side. Mouth and throat absolutely dry and parched. Ordered—

Tinct. cinchonæ, f℥ij;
Acidi tannici, ʒi.

S.—Dessertspoonful every half-hour.

Half-hour later (two hours after poisoning).—Condition somewhat quieter; pulse 140; respiration regular, but *inspiration* spasmodic; still restless, though more inclined to sleep. Circle of $\frac{1}{18}$ of an inch of iris visible around pupil; slight contraction under strong light; skin not so red.

Second dose of cinchona and tannin given.

Six hours after poisoning.—Pulse 133, respiration 30; has slept four hours quietly; pupils less dilated; seems delirious, and sees visions. Tonic contractions and convulsive movements gone. Bowels moved by enema, and strong coffee administered. Still very drowsy, but can be made to notice and talk.

June 1, A.M., report of Dr. Winter.—"Little patient all right this morning; but was wide awake, delirious with hallucinations, all night. Gave two doses deod. tinct. of opium, gtt. v and gtt. iv respectively, during night."

The amount of sulphate of atropia taken was not less than $\frac{3}{4}$ of a grain.

CASE OF POISONING BY OPIUM.

A girl-baby, 19½ months old, was given, June 1, at 10 A.M., a teaspoonful of deod. tinct. of opium by mistake for a mixture she was taking for entero-colitis. Child had always been healthy, and was well and strong up to a week before, when entero-colitis developed until she was very ill May 31, and was taken six miles in the country on the morning of the 1st. The accident occurred in the country. Was discovered within five minutes. A tumblerful of mustard and water was given within fifteen minutes after ingestion: this produced but slight vomiting, and was followed by half a tumblerful of warm salt water. A doctor was sent for two miles away, who, when he arrived, administered tincture of ipecac

Slight vomiting followed, but free emesis was not produced,—the mustard and salt water not being entirely expelled. Mustard poultices, hot mustard bath, and constant motion were used to keep the child awake. She continued drowsy, but easily roused, and the doctor, thinking the danger past, left, giving instructions not to allow the child to fall into a deep sleep.

About two o'clock (four hours after the poison had been taken) coma with stertorous breathing suddenly developed, and she could not be roused.

She was brought in to the city, and to my office about four o'clock.

Her condition when I first saw her was as follows:

Pulse beyond counting, but distinct. Respiration stertorous,—20 per minute. Pupils contracted to a point. Capillary circulation sluggish. Lips pale, and face bluish. Entirely unconscious. Conjunctiva not sensitive.

Administered by stomach gr. x sulphate of zinc. By rectum f℥iv strong coffee, and f℥ij coffee by mouth. Hypodermic injection sulphate of atropia (gtt. iv of a sol. gr. i to f℥ss) $\frac{1}{60}$ of a grain, and, getting no effect in half an hour, administered six drops more, making in all $\frac{1}{24}$ of a grain of atropia. Applied strong faradic current through diaphragm and vagus nerve. This current, though stronger than I could myself bear, had no effect on sensation, although the character of the respiration improved, becoming deeper and less stertorous.

Then used the galvanic current from forty-eight (Constant Battery) cells, using bare copper electrode. This caused the first indication of sensibility, and also improved the pulse and respiration, but was very severe,—the negative pole blistering in about five seconds and making it necessary to move it about constantly.

Hot and cold douche, alternately, by pouring the water from a height of two feet on back of neck, was tried thoroughly, without effect.

In an hour after the administration of the atropia the pupils were dilated about one-half, the pulse was stronger and could be counted at 180. Respiration not stertorous, and increased in frequency.

Responds now to faradic current. Hypodermic injection of fʒss whisky, which had a favorable effect on the pulse. In half an hour, pulse seeming to flag, repeated hypodermic of whisky. Called Dr. J. Ford Thompson in consultation.

When he came in, at 6.30 P.M., the baby seemed better; pulse distinct, 180; respiration 30; pupils slightly dilated; complete unconsciousness.

Introduced a flexible gum catheter into stomach and drew off about f℥iv fluid contents; then threw in water and washed stomach out, and injected three bulbfuls "Davidson's Syringe" of coffee and whisky.

However, pulse failed rapidly and refused again to respond to hypodermic of whisky; respiration more rapid, 36 per minute, and thoracic temperature 107°. Condition of surface, which had improved an hour before, became markedly cyanotic.

Evidently dying from venous cerebral congestion.

Died at 7.30, nine hours and a half after inception of the drug.

The amount of the deodorized tincture of opium taken was at least $\frac{3}{4}$ of a teaspoonful, the equivalent of 2½ or 3 grains of opium.

There was no autopsy.

This case differs from the usual course of opium-poisoning in that the respiration was increased in frequency instead of diminished.

There was no paralysis of the respiratory centre. The pulse at the wrist became imperceptible fifteen minutes before respiration ceased.

The ease with which the flexible catheter may be used to empty the stomach in such cases is worthy of notice. It seems preferable in every way to the cumbersome stomach-pump, and is always attainable. The stomach can be emptied of its contents quite as easily as the bladder, and an ordinary bulb-syringe is all that is necessary to wash out the viscus. I believe that to Professor J. F. Thompson, of this city, is due the credit of first applying the flexible catheter to this use.

AN UNUSUAL IDIOSYNCRASY IN REGARD TO QUININE.

Miss S., æt. 20 years. Healthy and well developed. Has always shown a great susceptibility to contagious diseases,—being the one out of a large family of children to always contract and bring into the family such diseases. Had scarlatina four years ago.

Had never taken quinine previous to the present occasion.

October 10, 1879.—The following recipe was ordered by the attending physician for supposed malarial trouble :

℞ Quiniæ sulphatis, ℈ij ;
Pulv. capsici, gr. iij ;
Mass. hydrarg., gr. x.

Thin caps. no. x. Sig., one every three hours.

Commenced taking the capsules on the evening of the 10th, and took eight at intervals of three hours.

On the evening of the 11th itching commenced in the palms of the hands, extending during the night to the whole body,—intensely severe, preventing sleep, and causing great distress.

October 12.—The entire cutaneous surface a bright scarlet, somewhat swollen, exquisitely tender to the touch, so that every motion was painful, as also was the pressure of the body upon the bed. Slight febrile disturbances, but no marked elevation of temperature.

October 14 I first saw the case. Color of the skin as above described, suggestive of a case of scarlatina, but even more intense in redness, and without any appearance of fine eruption. No inflammation about the fauces; no fever. Soreness to the touch has subsided.

Desquamation has commenced on the hands and forearms,—the epidermis peeling off in sheets. The palmar surface of one hand came off entire.

A pile of this epidermis had been kept on the side-table for my inspection. The surface off which it came still remained bright red.

Desquamation continued until the whole body had shed its scarf-skin, the exfoliation being completed on the 17th, just one week from the beginning of the attack.

The amount of sulphate of quinia taken was 32 grains.

In his recent work on "Materia Medica and Therapeutics," Dr. C. D. F. Phillips, speaking of the physiological action of quinine, uses the following language :

"There are other local poisonous actions of quinine, which are less constant, and which we can but little explain. One of the most singular of these is its powerful and disagreeable action on the skin of many patients. Most medical men have met with one or two individuals in whom any dose of quinine, but especially a large one, produced irritation of the skin followed by free desquamation. Cases have not unfrequently been seen in which the whole skin of a hand, or even a limb, has come off like a glove or a stocking."—(*Am. edit.*, p. 244.)

In the absence of any other explanation of the phenomena of the case above reported, it is fair to infer that it is one of these cases of quinine-poisoning referred to by Dr. Phillips.

TRANSLATIONS.

A Hitherto Undescribed Endemic Disease of New-Born Children.—F. Winckel (*Deutsche Med. Wochens.; Cbl. f. Med.*, 1879, p. 763) describes an endemic affection occurring under his observation at the Dresden Lying-in Institution. Twenty-three children were attacked, with a mortality of 83 per cent. The disease appeared from the first to the twelfth day, and usually ended fatally in thirty-two hours. The symptoms comprised exhaustion, cyanosis, and icterus, pale to dark-brown urine frequently only passed with difficulty. Hæmoglobinuria was present, the urine containing normal bladder epithelium, epithelium from the pelvis of the kidney, some granular cylinders with blood-corpuscles, micrococci and detritus, urate of ammonia, together with a small quantity of albumen. Abundant ochre stools. No fever, diminished temperature, increase of white corpuscles, and detritus of red blood-corpuscles, with small bodies having molecular motion. Abdomen soft, not sensitive. Liver somewhat prominent. Thoracic organs not essentially affected.

Convulsions occurred in the course of the affection, with severe irritation and trembling of the ocular muscles, strabismus convergens, and rotation of the bulbi.

Autopsy showed constant presence of arteritis and phlebitis, enlargement of spleen, hyperæmia of pancreas. The papillæ of the kidney showed hemorrhagic infarctions, the stomach was dilated, the intestine displayed somewhat numerous ecchymoses, Peyer's patches, and, particularly, the mesenteric glands were markedly swollen. Pleura and diaphragm contained somewhat numerous ecchymoses; bronchial and pharyngeal mucous membrane hyperæmic. Brain œdematous, ventricles all enlarged, marked hyperæmia, with here and there small, scattered extravasations. The disease could not be regarded as a result of birth, nor as puerperal infection, poisoning, poor nourishment, or want of care. The etiology appears to be unexplained. Winckel defines the affection as "cyanosis febrilis enterica perniciosa cum hæmoglobinuria."

SCLEROTINIC ACID THE ACTIVE CONSTITUENT OF ERGOT.—Nitkin (*Cbl. f. Med.*, 1879, p. 764; from *Würzb. Phys. Med. Verhandl.*) has experimented with sclerotinic acid in both warm- and cold-blooded animals. He found sclerotinic acid in the urine of warm-blooded animals two hours after injection, while at the end of forty to forty-eight hours it had entirely disappeared. A personal subcutaneous injection of .03 centigr. to 1.0 grm. into the arm gave a sharp, biting sensation, with a feeling of warmth through the entire member; a pale patch, with red areola, appeared at the point of injection. Both disappeared after thirty-six hours. Sclerotinate of sodium acted in the same manner, only the smarting disappeared in five to eight minutes. The fatal dose for frogs was 0.12 centigr.; for small cats, 0.30 centigr.; for rabbits, 0.80 centigr. Of sclerotinate of sodium the fatal dose was somewhat larger. Fatal injections lowered the temperature of warm-blooded animals, which remained lowered until the end. The pupil became narrowed in the stage of paralysis, and continued so. Autopsy showed brain and spinal cord œdematous and empty of blood; lungs congested and emphysematous at the edges; intestine congested, especially in the mucous membrane; urinary and gall bladders very full. As the result of his numerous and carefully conducted experiments, Nitkin concludes that sclerotinic acid possesses all the physiological and therapeutic effects of ergot, and therefore must be regarded as the chief active ingredient of this drug. Sclerotinate of sodium acts in the same manner, but more feebly. The effect of both seems to be exerted upon the central nervous system. Blood-pressure was reduced only by large doses; the heart remained unaltered. Death was preceded by stoppage of respiration. The fatal dose for man is reckoned at 10 grammes. An advantage of sclerotinic acid over ergot is that if kept dry it does not alter by age. Nitkin thinks the sclerotinate of sodium the best form for administration.

A CASE OF SYMMETRICAL GANGRENE.—Dr. Petri (*Berliner Klin. Wochens.*, 1879, p. 509), who had enjoyed good health up to the time of this attack, was seized with dull headache, weariness, and nausea, after a day or two of other symptoms, which constantly grew worse. The next day his temperature rose to 103.1°–104° F., and the fever, with enlargement of the spleen, lasted for a week. At first he was constipated, but later suffered from diarrhœa. The treatment consisted of salicylic acid, quinine, and baths. On the morning of the thirteenth day he experienced a chill of an hour's duration. The temperature rose that evening to 105° F., and on the next morning he observed an eruption of numerous hemorrhagic maculæ, symmetrically distributed over the body, coin-sized over the forehead and ears but hand-sized over the breasts. There were none on the abdominal region. The outer and upper surface of the arms, more particularly the left, was dark-blue in color over a space several hand-breadths in area. The sensibility of the parts affected was at first markedly increased; at the end of twenty-four hours, however, it had been replaced by almost complete anæsthesia. The arms became swollen and stiff. The fever continued; gastric disturbance, constipation, profuse sweating ensued; otherwise no disturbance of the functions. No ecchymoses on the mucous membrane, nor hemorrhages from the nose, mouth, or anus.

During the following weeks, large blebs, sometimes clear, sometimes bloody, formed over the arms; the patient became extremely exhausted. At the end of six weeks, superficial gangrene attacked the arms over a double hand-breadth on each side, and later, slight periostitis of the sternum followed. The patient had recovered by the end of six months. Dr. Petri regards his case as one of *erythema exudativum hæmorrhagicum.* He gives a picture of the parts affected.

Black Tongue, or Nigritia.—Dr. Hirtz (*Gaz. Méd. de Strasbourg; Jour. des Sci. Méd.*, 1879, p. 582) had occasion to examine a child of 6, whose tongue was absolutely black. No other morbid condition existed, excepting a slight gastric disturbance. Washes of every sort were used without effect, but the discoloration of the tongue lasted for six weeks. In another case the parents were sure the child had spilled ink upon its tongue, but the same persistence was observed until lotions of corrosive sublimate were used, which quickly removed the condition.

An examination of the literature of this curious affection shows that so far back as 1855 Mr. Bertrand had described it; but it was reserved for M. Gubler (*Dict. Encyclopédique*) to suggest and for M. Maurice Raynaud (*L'Union Méd*, July 1 and 3, 1869) to prove the existence of a parasite resembling that of ring-worm. Féréol, however, a little later, attempted to show that the parasitic growth was an epiphenomenon, and that the essential disease was a piliform epithelial hypertrophy. But more recent investigations by Lanceraux and Dessois (1878) appear to prove conclusively the presence of vegetable spores; and the treatment which has proved successful, namely, scraping and washing with lotions of corrosive sublimate (gr. i to ʒi), seems to point also to a vegetable parasitic origin of the affection.

Physiological Effects of the Constituents of Coffee.—According to the researches of Binz and Peretti published in 1875, caffein in small doses is without influence upon the temperature. Larger doses, although not sufficiently considerable to give rise to convulsions, increase the bodily temperature 6° Centig. Still larger doses, giving rise to salivation, muscular stiffness, etc., increase the temperature within from one to two hours 1–1.5° Centig. This increase of temperature is maintained during seven hours, after which a decrease takes place, sometimes below the normal. Artificial respiration prevents this rise of temperature. In the slow breathing induced by alcohol narcosis, caffein acts as an excitant, beginning to show its effects within fifty seconds of its administration. In alcoholized animals caffein increases the pulse-frequency, and arterial pressure even, when the vagi are cut. The effect of caffein has sometimes been said to be due to the potassium salts contained; but this Binz has proved untrue by giving similar amounts of the pure salts alone without effect.—*Cbl. f. Chir.*, 1879, No. 43.

Acetate of Aluminium as an Antiseptic in Surgery.—Dr. Maas, at the recent meeting of the surgical section of the Association of Naturalists, at Baden-Baden (*Cbl. f. Chir.*, No. 42, 1879), spoke of the various disadvantages of carbolic acid as an antiseptic dressing, particularly its poisonous properties and its difficult solubility. Loewig has recently made a solution of the acetate of aluminium which has a constant strength of 15 per cent. Ten parts of hydrate of aluminium are mixed with eight parts of dilute acetic acid, allowed to stand in a warm place for twenty-four hours, and then filtered. The filtrate is a 15 per cent. solution of the acetate of aluminium. Three per cent. of this is sufficient to destroy the bacteria in Buchholtz's solution. Maas has used a 2½ per cent. spray of this solution in antiseptic surgical operations with compresses wet with the same and covered with gum-paper, etc., as in the ordinary Lister's procedure. Wounds thus treated suppurated very little, ran an aseptic course, and required very few changes of dressing. The acetate of aluminium can only be used in solution. On evaporation it leaves nothing behind but hydrate of aluminium.

Pre-Hemiplegic Hemichorea.—I. Grasset (*Cbl. f. Med.*, 1879, p. 607; from *Gaz. Hebdom.*) gives the case of a man, 59 years of age, in whom no sign of former hemiplegia could be observed, and who injured his left hand by a fall. There was considerable loss of blood. Some eight and a half hours later (the hemorrhage, which had ceased, again having set in), the patient was found unconscious and with his right arm paralyzed. During the whole day and evening continuous choreiform movements were observed in this arm, which the next day gave way to paralysis. The entire right side was anæsthetic. In addition, the head and both eyes were observed to be drawn to the left side. Death ensued. At the autopsy a hemorrhagic focus was found in the *noyau lenticulaire* and the internal capsule of the left side.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 3, 1880.

EDITORIAL.

MEDICAL RELIEF FOR THE POOR.

SO much of paper and ink has been used in denouncing the system of free medical relief rampant in most of the large cities of the English-speaking race, and so little of the same materials have been employed in the proposing of really practical means of relief, that we are extremely pleased to take note of the undertaking which has been set on foot by the conjoint efforts of the Philadelphia County Medical Society and the Philadelphia Society for Organizing Charitable Relief.

It is proposed to divide the city into certain medical territorial districts or parishes, each of which is to be the exclusive source of supply for a single dispensary, and to use the ward organizations for the purposes of visitation and investigation. The other main features of the scheme are sufficiently portrayed in the following extract from the published circular:

> "1st. That at each out-service or dispensary the patients shall be treated on the first visit, subject to the usual discrimination of the medical staff in attendance.
>
> "2d. That each medical staff shall provide cards giving its title, address, hours of service, and such of its regulations as it may deem necessary, and that the applicants, after the first treatment, shall be referred with a card to the office of the ward association within which the applicant resides. The Ward Superintendent, after investigation of the case, shall place the ward stamp on the card and note it as approved or disapproved, with such qualifications as the conditions of the card may require. These cards shall be presented on all subsequent visits at the service-rooms of the medical charities. Small diagrams of the wards, with the address of the ward office, will be furnished for each dispensary or out-service. When the patient is ignorant as to the ward in which he resides, or is without a residence, he shall be referred for direction to the relief-office of the ward within which the medical charity is situated.
>
> "The question of investigation should be as to the ability to pay, and not upon the moral standing of the patient,—as a general rule,—unless the card specifies to the contrary in any particular.
>
> "It is suggested that the conditions for medical relief differ from other forms of relief,—
>
> "1st. In that physical suffering cannot be passed by.
>
> "2d. In that the relief, not being exchangeable, is not liable to abuse.
>
> "A scale will be determined as to the degree of income that should disqualify for medical relief, according to the number in family to be supported.
>
> "The cards of the medical charities should have this scale noted, and also whichever of the following conditions they respectively may desire should be attached to the investigation:
>
> "1st. Eligibility for gratuitous treatment with or without medicine
>
> "2d. Eligibility for gratuitous treatment without medicine.
>
> "3d. Eligibility for treatment, conditioned with stipulated fees according to ability for each visit, and with or without medicine. Provided the fees should not be less than five nor more than twenty cents.
>
> "The payment of a small fee would tend to preserve the self-respect of the applicant, and, at the same time, to aid in the support of the services, and would in a measure check an undue recourse to medical charities. The fees should be placed by the patients in a box provided for the service-rooms."

It should be noted that in this scheme the various hospital and private dispensaries are not included, but only the seven general dispensaries of the city. Of the important hospital dispensaries, that of the Episcopal Hospital is so situated that its continuance should, we think, be encouraged. Eventually it should be included in the schedule. In regard to the dispensary of the Pennsylvania Hospital, we always believed that it was uncalled for, and that its creation by the Board of Managers, some few years since, was an addition to the load already borne by the medical profession which had no excuse in necessity, the district covered by it already being fully provided for. If some of the force lost in denunciation of the general system of free medical relief had been spent in informing and reasoning with the managers of the Pennsylvania Hospital before they took action some years ago, possibly good might have been accomplished in the preventing of evil.

The dispensaries of the medical schools are not demanded or justified by the needs of charity, but by the necessities of medical teaching. We suppose very few physicians would advise the abolition of the Jefferson College and the University; and as these institutions could not exist without their clinical facilities, their dispensaries not only must be endured, but must be allowed free course.

We think, however, that the work of the joint committee, whose action is the basis of this editorial, never will be thoroughly done until all dispensaries except those upon their list shall have been abolished. Of course the originators of the scheme under discussion have no direct power in the matter. If, however, the Society for Organizing Charitable Relief continues to grow in success and in power as it has since its origin, the time may come when even the most aristocratic and stiff-necked of our various boards of hospital managers will bow to an enlightened public opinion concentrated upon them by a powerful and active organization in whose ranks are enrolled most of our best citizens.

We have been pleased by the reception of the published account of the proceedings at the dedication of the McDowell monument in Danville, Kentucky. The oration, which was pronounced by Professor Gross, was, of course, just what it ought to have been. Of it further to speak is scarcely appropriate; it cannot be abstracted, having been written only to be heard or read. We do desire, however, to express our great gratification in that to one American physician or surgeon it has been given to have a public and permanent recognition of his services to humanity. Of a city that lets its Benjamin Franklin lie neglected, with grave unkempt, in an old and untrodden cemetery, it is too much to expect any remembrance of its great medical men of the past. But it is well that in the Mississippi Valley—the future centre of the nation—there should be a granite shaft to bear witness that there is nobility in saving life, and that honor is no longer to be found solely amid the carnage of the battle-field.

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The University of Edinburgh has presented the Cameron prize, established to encourage studies in therapeutics, to Mr. Paul Bert, for his discovery of the value of compressed protoxide of nitrogen as an anæsthetic of long duration.

LEADING ARTICLES.

THE REPORT OF THE HAVANA YELLOW-FEVER COMMISSION.

At the meeting of the National Board of Health, held in June last, Drs. G. M. Sternberg, S. E. Chaillé, and J. Guitéras, together with T. S. Hardee, C.E., were appointed a commission to make investigations regarding yellow fever at Havana, Matanzas, and other places in Cuba. The commission has recently submitted its preliminary report, which lies before us in the form of a supplement to the *National Board of Health Bulletin*. The memorandum of instructions states that in organizing the commission the National Board has more especially in view the following desiderata: *First.* To ascertain the actual sanitary condition of the principal ports in Cuba from which shipments are made to the United States, more especially the ports of Havana and Matanzas, to determine how these sanitary conditions can best be made satisfactory, and more especially as to what can and should be done to prevent the introduction of the cause of yellow fever into the shipping of these ports. *Second.* To increase existing knowledge as to the pathology of yellow fever,—that is, as to the changes and results which it produces in the human body. *Third.* To obtain as much information as possible with regard to the so-called endemicity of yellow fever in Cuba, and the conditions which may be supposed to determine such endemicity. This, of course, involves a careful examination of neighboring localities where the disease does not appear to have its cause permanently localized.

Dr. Chaillé and Colonel Hardee were appointed by the commission a committee to conduct that portion of the investigation indicated under headings "First" and "Third," while Drs. Sternberg and Guitéras were appointed to conduct that portion of the investigation coming under heading "Second," and under additional instructions following "Third," and relating chiefly to the nature and natural history of the yellow-fever poison.

The preliminary report drawn up by the chairman of the commission, Dr. Chaillé, and the secretary, Dr. Sternberg, is intended merely to record the most important facts obtained and the general results of the investigation, leaving details and the discussion of unsettled problems to the individual reports of members to be submitted hereafter. The commission, assisted by numerous officials of the island, began its labors in the first week of July, and finished them by the end of September. With regard to the commerce between Cuba and the United States, it is concluded that suspension of intercourse during a few months would tend to force the Cuban trade into the remaining months of the year rather than seriously to diminish it. Present sanitary restrictions on this trade do not cause to the United States the great pecuniary loss which the people are incessantly taught is thereby inflicted. Yellow fever is endemic in the most important seaports of Cuba. Residents of the mountain parts and secluded districts suffer from this disease when visiting the towns, showing that the poison is not so permanently lodged in these localities as to acclimatize a population, and that the causation of the disease must be sought in other conditions than those common to these rural places and the towns habitually infected.

Under the head of "Causes of Endemicity," the commission unfolds some particulars of public administration in Cuba which are of general but rather painful interest. The report says, "So far is Cuba from efforts to control the propagation of yellow fever that much is done which is calculated to greatly favor this." In illustration is mentioned the condition of the chief military hospital at Havana, located on the edge of the harbor, in one of the notoriously most infected localities of the city. It contained many cases of yellow fever, some of which were originating therein daily. A large room on the ground-floor of this hospital contained new blankets and other hospital supplies of clothing in very large quantities, and to the value of eighty thousand dollars, these supplies being intended for *distribution* to the other military hospitals scattered over the island! In addition, Cuba is cursed with a deteriorated and filthy paper currency, much of it so dirty that it stinks, and so foul that it has been seen conveying semi-putrid fish-scales from one person to another. Finally, after October 4, 1879, although there had been during the week twenty deaths in Havana, with not less than eighty cases of yellow fever existing on that day, and in the harbor nine infected vessels, yet "clean bills of health" were issued by Cuban officials to vessels sailing from that harbor. The exceptional prevalence of yellow fever in Cuba, as well as its exportation thence to foreign countries, needs little further explanation. Having the poison and all the requisite climatic conditions for its propagation, ample means are provided to bring to it, as food, constant supplies of unacclimated people.

With reference to climate in connection with the prevalence of yellow fever, the commission state that science has thus far failed to prove the essential connection with yellow fever of any one meteorological factor except heat; and what duration and degree of this are requisite is very indefinitely known.

That section of the report which treats of the insanitary condition of the ports of Cuba and the causes thereof is of considerable interest. It shows that the water-supply is in part defective in quality and wholly insufficient in quantity, and that hygienic laws are so violated that many causes are in constant operation grossly to pollute the soil, the air, and the harbor. A number of practical suggestions as to the method of obviating these conditions are added by the commission, and in this the subject of the origin of yellow fever in ships and harbors is discussed.

With reference to the question, what can and should be done to prevent the introduction of the cause of yellow fever into the shipping of Havana, Matanzas, and other Cuban ports, the commission regard themselves as in a position to suggest palliative measures only; but these are entered into in a terse and practical fashion likely to prove useful.

The report of the commission upon the pathology of yellow fever indicates a careful and thorough examination of the various points upon which information was sought, and, although the results reached have been for the most part negative, several questions of interest are suggested. The microscopic examination of the blood, which alone was practised, no chemical investigations having been made, indicates the entire absence of any vegetable organisms which can be regarded as characteristic.

The most important observation made relates to certain granules in the white corpuscles, shown in many of the photomicrographs taken. On account of the manner in which these granules refract light, and for other reasons, they are believed by Dr. Sternberg to represent fatty degeneration of the leucocytes.

Experiments with a view to ascertaining the susceptibility of animals resulted negatively. No symptoms were produced in any of the numerous animals experimented upon which could fairly be attributed to the influence of the yellow-fever poison.

An examination of the air and dust of the yellow-fever hospital wards showed the constant presence of certain slender glistening acicular crystals,* which attracted much attention, and which appear of particular interest in connection with the ascertained constant alkalinity of the atmosphere, commented upon in an appendix to the report.

Notes are given of the gross and microscopic appearances observed in the various organs and tissues of the body, obtained as the result of twenty-two autopsies performed by Dr. Guitéras.

In conclusion, we recommend the report of the commission to the careful perusal of all who are interested in the study of yellow fever, as a careful and scientific investigation of the subject, well worthy of the reputation of its members and of the National Board of Health.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, NOVEMBER 13, 1879.

THE PRESIDENT, DR. S. W. GROSS, in the chair.

Epithelioma of the lower lip. Presented by Dr. MORRIS LONGSTRETH.

DENNIS F. G., æt. 49, was admitted to the Pennsylvania Hospital, October 22, 1879, under the care of Dr. Thomas G. Morton. I am indebted to Dr. Baum, the resident physician, for the following history of the case. The man's history is good, as regards the occurrence of any malignant or hereditary disease in other members of the family. At the age of 10 he suffered from disease of the knee- and hip-joints; abscesses formed, and several large pieces of necrosed bone were removed from the femur, etc. Twenty years ago the man contracted a chancre, and since then has had a large ulcer on the right leg. Nine years ago, while working in the sun, his lips, etc., were sunburned and parched, and subsequently the lower lip fissured in the middle line. The fissure became an open sore, or ulcer, and about four or five years ago an outgrowth commenced in the middle of the lower lip.

On admission, the growth was found to involve the entire lower lip, except the extreme margins at each angle; it measured two and one-half inches in length and about one and one-half inch in thickness. The surface of the growth was uneven and nodular, and covered with fungous granulation peculiarly exuberant in character. On the outer surface of the lip, near its inferior portion, there were numerous rounded, slightly prominent nodules, but not ulcerated on their surface. The hairs on this portion of the lip were strikingly rank in their growth, and were loose in their attachments, and easily plucked out from the skin. The lip, although very much everted, so as to allow the dribbling of saliva from the mouth, was found at the time of the operation firmly attached to the lower jaw.

The growth was removed by incisions carried vertically through the lip near its angles, and by a horizontal incision joining the two vertical cuts. The condition of the alveolar process of the bone—the incisor teeth being lost, and some granulation springing up from their sockets—suggested the possibility of the bone being involved in the growth, and it was deemed best to remove this portion of the jaw; the operation was done with Bonwill's engine, armed with a circular saw, and operated by Dr. Bonwill himself. The wound of operation was closed by a principal suture placed at the middle of each of the vertical incisions; the borders of the newly-formed lip were brought together by a series of sutures, bringing the mucous membrane in apposition with the skin, and thus covering in the raw surface. The removal of the bone allowed of a better closure of the wound. A small abscess subsequently formed under the chin, and was opened.

The microscopic examination, made from sections cut with the freezing microtome, showed the growth to be an epithelioma. As the physical characters of the growth indicated, the microscopic appearances presented by the specimens showed a marked hypertrophic enlargement of the papillary layer on the surface of the growth; in parts so marked was this development that the appearance presented closely resembled a simple papilloma. The tumor itself showed but very few "pearly" formations; the epithelial cylinders were very numerous in parts, and growing luxuriantly. The corpuscular elements were very abundant in the connective tissue surrounding the epithelial formations. The vascularity of the parts was greatly increased. The muscular fibres of the lip showed very marked atrophy, and in some parts had nearly disappeared.

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* These crystals, which have been shown to the writer, are soluble in water, and look as though they were ammoniacal. —ED. P. M. T.

The bony tissue and its attachments were not involved in the growth.

Giant-celled sarcoma of the upper extremity of the humerus. Presented by Dr. SAMUEL W. GROSS.

Mrs. J., æt. 23 years, fell on the ice on the 2d of January, 1879, but without any immediate ill effects. In July, or six months subsequently, she observed that the upper portion of the left arm was swollen, and that it soon became the seat of a dull, heavy pain, especially on motion, which has continued ever since.

On the 8th of November, when Professor Gross disarticulated at the shoulder by cutaneous flaps, the upper third of the humerus was converted into a smooth ovoid tumor, which measured one and one-quarter inch more in circumference than the opposite limb. Its consistence was elastic; its temperature was elevated one degree, but the skin, veins, and lymphatic glands were normal. The humerus was fractured, but the patient was not aware of that fact before she came under observation. After the overlying soft parts had been cleared away, the tumor, which was as large as a goose's egg, was found to be surrounded by a perfect periosteal capsule, which was continuous above with the thinned articular cartilage of the head of the humerus, and below with the periosteum of the shaft, the latter of which terminated abruptly in the midst of the neoplasm. Its tissue was of a uniformly grayish tint, friable, and had a fibrous tear.

Under the microscope the growth was found to be a typical giant-celled sarcoma, the very numerous multi-nucleated elements being contained in a spindle-celled matrix.

Spindle-celled sarcoma over olecranon process. Presented by Dr. SAMUEL W. GROSS.

A widow, æt. 61, came under my care at the hospital of the Jefferson Medical College, on the 20th of last August, on account of a tumor over the posterior face of the right elbow, which she stated was first observed two years previously as a moderately-soft, painless nodule. Its further growth was slow, until June, 1879, or two months before she came to the clinic, when it began to increase rapidly, and be the seat of a gnawing pain, which frequently interfered with her rest. On the 6th of August it began to ulcerate at its summit, and the suffering was aggravated; a week subsequently it bled rather freely. The wax model, made at the time, shows a conoidal tumor surmounting the olecranon process and the triceps tendon. The skin was of a bluish-red tint, pervaded by enlarged capillaries, and attenuated. At its base the neoplasm measured eleven inches in circumference, while it was three inches high, and its apex was ulcerated to the extent of an inch in diameter. In outline it was lobulated; its consistence was soft and elastic, and apparently fluctuating over the larger bones; and its temperature was three degrees higher than that of the opposite arm. The veins in the immediate vicinity of the growth were more prominent than natural, but there was no lymphatic involvement.

The wet specimen shows that the tumor underwent marked changes during the three weeks and a half which elapsed between the date that the patient first came under my care and amputation. Thus, its circumference had increased two inches and its height three inches, while the ulcer measured three inches and one-half in diameter. The bones were more prominent, and the largest one fluctuated distinctly and was evidently approaching ulceration.

Amputation of the arm was practised at the junction of its middle with its lower third, on the 20th of September, and the patient was discharged at the expiration of five weeks.

Section of the tumor and the underlying structures, which was attended with the escape of straw-colored fluid, disclosed that it was composed for the most part of a succulent, striated, yellowish-white tissue, with here and there gelatinous areas and a few small cysts. The older portion, or that which lay nearest to the olecranon process, was deeply blood-stained. The triceps tendon was infiltrated by the morbid deposit. The ulna was not involved, the tumor, which developed in the subcutaneous connective tissue, being merely attached to its investing periosteum.

On microscopical examination the growth was found to be a hemorrhagic large spindle-celled sarcoma, with an occasional giant element.

Medullary carcinoma of the bladder. Presented by Dr. JOSEPH HEARN.

Francis B., æt. 59, married, a blacksmith, was treated at the surgical out-patient department of the Jefferson Medical College Hospital during the past summer for vesical trouble, under which he had labored for twelve years. The earliest symptoms were frequent micturition and slight pain at the completion of the act: they gradually grew worse, until three years ago, when he passed blood for the first time. Of late the discharge of blood was increased by unusual exercise, the use of malt or spirituous liquors, and by sexual indulgence; at times it was quite profuse, and most marked after the expulsion of the urine. Two months before the fatal issue he was compelled to take to his bed from the loss of strength and flesh, and on account of constant pain, which was at times intense, referred to the pelvic region and to the glans penis, the latter of which he was constantly pulling at and squeezing, even when he was unconscious. On the introduction of a sound the surface of the bladder was felt to be roughened and uneven. The employment of the instrument was productive of great pain, and occasioned a copious hemorrhage. Unless under the influence of the anodynes, he passed a few drops of urine every thirty minutes during the day and night. He was partly unconscious for two weeks before death, and for one week suffered from incontinence of urine.

At the post-mortem examination, made September 11, 1879, twenty-four hours after death, on incising the linea alba, a rather firm, grayish-white nodule, as large as a hazelnut and seated in the parietal peritoneum, was cut through about midway between the umbilicus and pubes. With the hand the peritoneum was found to be the seat of other secondary growths, but in deference to the wishes of the family the incisions were restricted to making an opening sufficiently large to remove the bladder. The capacity of the viscus was not diminished. The base was thickened to the extent of nearly one inch by a soft encephaloid mass, which protruded several small nodules into the space between the seminal vesicles. On opening the bladder and emptying it of its muco-purulent urine, the entire mucous membrane was seen to be corrugated and inflamed. The *bas-fond* and the greater portion of the organ were converted into irregular fungous and ulcerated masses, which infiltrated all of its coats except the peritoneal. On section they were of a pinkish-white tint, soft, and very friable. The prostate was only slightly enlarged, and was not invaded by the disease. Microscopical examination by Dr. S. W. Gross showed that the primary growth of the bladder and the secondary nodule of the peritoneum were composed of large polymorphous epithelial cells, the majority of which had undergone fatty changes, contained in alveolar spaces formed either by muscular fibres or by fibrous tissue.

Dr. S. W. GROSS remarked that primary carcinoma of the bladder is to be ranked among the rarest of affections, although it is not very uncommon as the result of the extension of a similar growth from the contiguous and associated organs. The case narrated by Dr. Hearn is of interest on account of the long duration of the disease, death usually ensuing in less than twelve months. Examples of the prolongation of life for eight or nine years have, however, been recorded by Sir Henry Thompson and W. M. Clarke. They were all villous medullary carcinomas, and hemorrhage was a prominent symptom from the first.

REVIEWS AND BOOK NOTICES.

PARACENTESIS OF THE PERICARDIUM: A CONSIDERATION OF THE SURGICAL TREATMENT OF PERICARDIAL EFFUSIONS. By JOHN B. ROBERTS, A.M., M.D., Fellow of the Philadelphia Academy of Surgery, etc., etc. With Illustrations. Philadelphia, J. B. Lippincott & Co., 1879. 8vo, pp. 100.

Dr. Roberts has done himself great credit and the profession a real good in writing this monograph. It is a clear, able, and earnest statement of the claims of an operation which has not heretofore received from medical men at large the consideration it deserves. After a search systematically carried on during a period extending back several years, Dr. Roberts has succeeded in collecting from American and foreign medical literature only sixty cases. These he has tabulated with reference to the name of the operator, the date, the sex and age of the patient, the mode and site of the operation, the result and other points of interest, including the source from which each case was derived. Some of them are what may be called stock cases, and have been made the subject of frequent reference in the past. Most of them are, however, of recent date,—since 1869,—and a few are new,—notably that of Herbert Norris (1869), which was published for the first in Agnew's Surgery, and that of Comegys Paul, the account of which *in extenso* did not appear until more than a month after the publication of Dr. Roberts's book.*

Anticipating by a week or so the date of the appearance of this book here, there was published in Leipsic a number of the *Deutsches Archiv für Klinische Medicin* (23d October, 1879) containing a paper by Dr. Hindenlang, entitled "A Case of Paracentesis Pericardii, from the Medical Clinic at Friburg." The patient whose history forms the text of this paper was twice operated upon by Prof. Bäumler, but ultimately died. A case of Prof. Kussmaul's, not previously published, is also given. In addition to these two cases, Dr. Hindenlang has collected fifty cases in which paracentesis pericardii was attempted or performed. To this list he adds twenty-three cases of scorbutic pericarditis operated upon, thus making a list of seventy-three cases exclusive of the two which are narrated for the first time in his paper. From this number are to be deducted, however, eight cases in which the operation was not concluded or the result was unknown or doubtful. Of the sixty-five remaining cases, twenty-one, or 32.3 per cent., made a more or less complete recovery. This is less favorable than the ratio in Dr. Roberts's collection of sixty cases, in which twenty-four, or 40 per cent., recovered. It is to be observed, however, that of thirty-five authentic cases that have been reported since 1860, only ten, or 28.5+ per cent., recovered, as is shown by Roberts. The almost simultaneous issue of these two works in the same field, by men engaged in the independent study of the subject in distant parts of the world, is one of those coincidences by no means rare in medical literature. As might be anticipated, a careful scrutiny of the two lists shows that a majority of the cases are common to both, whilst each observer has found a few that the other has missed.

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* See Philadelphia Medical Times, December 6, 1879.

Dr. Roberts has reached the consideration of the operation by a succinct discussion of the causes of pericardial effusion, the nature and quantity of the fluid, its symptoms and the physical signs of its presence, the diagnosis, prognosis, and general management of the condition.

The anatomy of the parts concerned, the method of operating, the point of puncture, the dangers of the operation, and the objections that have been urged against it, are all considered with great knowledge and in a style characterized chiefly by directness and lucidity. The fifth interspace in the position normally occupied by the apex is regarded by the author as the point of election; the fossa between the ensiform cartilage and the costal cartilages of the left side is his next choice. And these two, he thinks, are the only points against which strong objections may not be urged. The wood-cut illustrating this part of the subject is not satisfactory.

No medical man who is at the same time a student and a practitioner can afford to pass this little book unread, seeing that it contains the gist of an important subject, not yet written into shreds, presented in an agreeable and concise form. To the students who are not yet practitioners, and the practitioners who are no longer students, we may say that there is much in it that will repay a little leisure given to its careful perusal. J. C. W.

CLINICAL LECTURES ON DISEASES OF WOMEN. By LOMBE ATTHILL, M.D. Univ. Dubl. Fifth Edition. Philadelphia, Lindsay & Blakiston, 1879.

Books on diseases peculiar to women exist in goodly proportion, and some of the more pretentious works would seem to contain all that science has hitherto advanced, if not all that the inquiring mind could wish, in this department. Contrasted with an ample and scientific treatise, as the last edition of Barnes, for example, the little work under consideration, of something more than three hundred small pages in large type, appears insignificant, and in danger of being consigned to an oblivion which its merits would by no means justify.

It is a concise and thorough condensation of years of clinical experience of a man of undoubted original ability and unquestionable research. From beginning to end it is fresh, lucid, and graphic, bringing the reader thoroughly *en rapport* with the author, as he carries him in imagination from case to case, clearing as he goes many doubts and questions which have been vexing and embarrassing in practice. There is no space wasted; the author deals with facts, and with practical minutiæ of treatment, to the entire exclusion of mere speculation or hypothetical practice.

The opening pages, upon uterine examination and manipulation, might be profitably read by Graily Hewitt himself, while the chapter devoted to polypi and their treatment is calculated not only to add to technical knowledge, but to enhance materially the skill, and, not less important, the patience of the operator in dealing with this troublesome class of diseases.

The space devoted to retroflexion of the womb is proportionally too small for the importance of the subject. The question of cervical inflammation is not treated in a manner quite abreast of the times, any allusion to one very important lesion, laceration of the cervix, being conspicuous by its absence.

The indiscriminate use of caustics in endometritis, inculcated in the chapter upon that subject, though quite in accord with the prevalent practice, is open to adverse criticism.

These and other objectionable features, however, do not obscure the general value of the book, which for compactness, scope, and reliability has no superior in its department. J. B.

A CLINICAL TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By M. ROSENTHAL. Vol. II. Translated by L. PUTZEL, M.D. New York, William Wood & Co., 1879. 8vo, pp. 284.

This volume sustains the reputation of the first half of the treatise. It is a good book, well translated. The classification adopted is useful and practical, and better than that found in most text-books on the same subject. That the author has had a large clinical experience is shown throughout the work. The treatise, in this volume as in the other, is remarkable for the amount of valuable information presented in a small compass; and in this respect it is a striking contrast to the bulky volumes on diseases of the nervous system in some of the recent cyclopædias and systems of medicine, which contain an abundance of facts, but these are far from being compactly presented.

The chapters on Hysteria and Epilepsy are interesting and satisfactory, particularly those portions which relate to pathology and treatment. The effort to establish an organic basis for hysteria is worthy of all commendation. Class X., which contains one chapter on *Vaso-Motor and Trophic Neuroses*, is also deserving of special mention. It includes brief, but, on the whole, satisfactory, discussions of migraine, unilateral atrophy of the face, Basedow's disease, traumatic and rheumatic nervous disorders of the sympathetic system, vaso-motor angina pectoris, neurosis of the abdominal sympathetic, Addison's disease, muscular pseudo-hypertrophy, trophic affections of the skin, and trophic affections of the bones and joints. Rosenthal brings forward prominently Goltz's experimental investigations upon the vaso-dilator nerves. He looks upon Basedow's disease as a neurosis due to an *irritation* of the vaso-motor apparatus, rather than to paralysis of the sympathetic. We have here and there in the volume a doubtful statement or an exploded theory, but the shortcomings of the work are not vital, and it will certainly be a useful addition to the library of every practitioner. C. K. M.

BIOGRAPHICAL DICTIONARY OF CONTEMPORARY AMERICAN PHYSICIANS AND SURGEONS. Edited by WM. B. ATKINSON. Second Edition, enlarged and revised.

This book has been so pertinently and impertinently reviewed, discussed, and belabored, that we content ourselves with the mere announcement of the second edition, published at a reduced price, and with the expression of our sincere condolence with those physicians who paid so heavily for immortality on steel, but whose hopes are blasted by the omission of their portraits from this new edition.

A TEXT-BOOK OF PHYSIOLOGY. By M. FOSTER, M.D. London, Macmillan & Co., 1879.

This new edition of "Prælector Foster's Physiology" is in every respect worthy of the previous one. An elaborate review at present is not required: it is only necessary to say that it is the best book of its immediate scope in any of the three languages, so far, at least, as our knowledge goes; also to announce that the price has been reduced to $3.50 (cloth), and that, according to the circular letter accompanying the book, a still cheaper students' edition "will be ready in a few days."

A TREATISE ON THE THEORY AND PRACTICE OF MEDICINE. By J. S. BRISTOWE, M.D. Edited by JAS. H. HUTCHINSON, M.D. Second American Edition. Philadelphia, H. C. Lea, 1879.

A new edition of this well-known work, which has had the advantage of careful revision not only by its author, but also by Dr. Hutchinson, than whom there is no one in this country better fitted for the task.

A MINISTRY OF HEALTH, AND OTHER ADDRESSES. By B. W. RICHARDSON. D. Appleton & Co., New York.

This is a series of very well written essays upon sanitary and other medico-popular subjects. We have read all of it with much interest, and can commend the book to the attention of the profession. The essay on the world of physic is just what a medical man would do well to lend for perusal to his favorite patients of the better class.

WE have also received from Lindsay & Blakiston a copy of the fourth edition of "Holden's Manual of Human Dissection," a work which, under the joint care of Messrs. Luther Holden and John Langton, holds with an unopenable grip the first rank among books of its class in the language.

GLEANINGS FROM EXCHANGES.

INHALATIONS—THE ANTISEPTIC TREATMENT OF PHTHISIS.—Dr. Curschmann, of Hamburg, is a strong advocate of the respiration of antiseptics in phthisis. His respirator is figured in the *Berliner Klinische Wochenschrift*, No. 29, page 430. It is made of vulcanite, and has a rim of soft india-rubber, where it touches the face, to insure close contact and prevent air entering the lungs except through the respirator itself. Dr. Curschmann generally covers both nose and mouth, so that all the air which the patient breathes is saturated with the vapor in the inhaler.

The substances used for inhalation, and which are poured on a sponge in the front of the cavity of the respirator, are all well-known drugs,—pure oil of turpentine, carbolic acid, and thymol, either pure or diluted with from one to three parts alcohol, and creasote. Dr. Curschmann's application of them differs, however, from what most practitioners are accustomed to, in his using them either pure or, if diluted, but very slightly diluted; and yet most careful examinations of the urine after the prolonged inhalation of oil of turpentine never revealed the least renal irritation; nor did the patients complain of any unpleasant symptoms, except occasionally a little oppression of the head, and headache. The same is true of the use of undiluted carbolic acid previously liquefied by a gentle heat. If care be taken to wipe the edge of the inhaler frequently where it touches the face, and to anoint the face itself with simple ointment, there is no local soreness; and Dr. Curschmann has never seen any irritating effect produced either on the inside of the mouth or on the larynx by the administration of the vapor of carbolic acid in so concentrated a form; nor has any instance of so-called carbolic "intoxication" occurred in his practice. This statement refers to adults, as he has had scarcely any experience with children. He explains the harmlessness of the pure acid when inspired, first by the small amount of it which evaporates and reaches the lungs at all, and, secondly, by the fact that a large part is, very soon after reaching the dilated bronchi or cavities, expectorated with their secretion, and that the false membrane lining these cavities probably offers considerable resistance to its absorption into the system. Both carbolic acid and thymol evaporate much more freely in alcoholic solution than when pure; and Dr. Curschmann has almost invariably used thymol in this form alone. Alcoholic solutions of carbolic acid are more apt to cause paroxysms of cough than the undiluted acid. More patients, however, object to the use of thymol than of carbolic acid; but the former is, no doubt, safer for children's use than the latter.

Creasote never requires dilution (and on this point we are able to confirm Dr. Curschmann's experience), but it is very important to see that the druggist supplies a pure article. Curschmann prefers creasote in cases where there is a tendency to hæmoptysis: he finds that it not only has a styptic action and disinfecting properties as powerful as those of carbolic acid, but that its vapor is sedative and allays rather than excites cough. Incidentally he mentions that he has seen benefit result from creasote inhalations in the hæmoptysis of phthisis.

Dr. Curschmann relates the history of two cases of phthisis with abundant and fetid expectoration. One was treated by inhalations of pure carbolic acid, the other first by oil of turpentine and later by carbolic acid. The inhalations were at first kept up for two or three hours at a time, later continuously. Both patients were relieved of their cough, and during the six months they were under observation gained twenty pounds in weight.—*Med. Times and Gaz.*, November 15, 1879.

INTESTINAL OBSTRUCTION SUCCESSFULLY TREATED BY PUNCTURE OF THE SMALL INTESTINE.—Dr. W. H. Broadbent (*Brit. Med. Jour.*, ii., 1879, p. 490) describes a case in which puncture of the intestine was successfully employed for the relief of obstruction. In connection with his report of the case, Dr. Broadbent notes the precautions which in his experience have always prevented injurious results from this operation. These are as follows:

1. To secure, if possible, absolute freedom from peristaltic action of the bowel. This is done by giving an extra dose of opium by the mouth, or a considerable hypodermic injection of morphia, or both, three or four hours beforehand. No food of any kind should have been taken for some time.

2. To select, if possible, a coil of intestine which shall contain only gas, and not liquid. This will be in the jejunum, and is to be found above the umbilicus rather than below it. An indispensable condition is, that scarcely any food shall have been taken during the entire attack.

3. To pierce the coil exactly at its most convex part. The abdomen should be carefully watched for some time at every visit, and especially before the operation. In some cases where the walls are thin the outlines of various coils may be traced even in repose; but this will be more distinct when peristalsis is provoked by pressure, friction, or manipulation of one kind or another; it will be seen also which coils shift and which keep the same position when contracting. The spot chosen for the puncture should be as near as possible over the centre of a coil which does not roll about, and by preference in the linea alba. If the needle happen to hit the line of contact between two coils, it may tear both.

4. To exercise great care and patience during the escape of the gas. The needle should be held lightly, but rather firmly, perpendicular to the abdominal wall, and should not be allowed to follow too rapidly any movement of the intestine. Under the circumstances of obstruction, the respiratory movements are not great. As the gas escapes from the coil selected for puncture, it will collapse under pressure from neighboring coils, and the flow through the needle will cease; very soon, however, the air in the intestine will distribute itself, and enter the empty portion, when again it will escape. This may be aided by general manipulation and pressure; but they should not be hastily resorted to: nothing is gained by hurry. Should the tube get blocked, aspiration may free it; but it is safer to drive a little air through the tube into the bowel than to exert powerful suction, which may draw the mucous membrane against the sharp needle. It is better not to put on a bandage after the operation.

Puncture of the intestine can relieve obstruction only very rarely and under exceptional circumstances. When it is due to misplacement of the intestine depending on pressure or dragging by a tumor, removal of distention may permit the parts to return to their normal position; but it could have no effect on a stricture or intussusception. Dr. Broadbent's experience would lead him to recommend puncture as a palliative; and, though he has no experience to guide him, he thinks it might be a useful preliminary to inflation, manipulation, suspension head downwards, or other procedures in intussusception, twisting or imprisonment of the bowel by adhesions.

THE TRANSFERENCE OF SENSIBILITY IN METALLOSCOPY.—Dr. Th. Rumpf, of Dusseldorf, in a lecture delivered before the Association of South-West German Neurologists (*Berliner Klin. Wochenschrift*, No. 36, 1879), describes some experiments which to a certain extent explain the metalloscopic "transfer" as a normal phenomenon in healthy subjects. He observed the effect produced by friction of the skin of one limb with spirits of mustard, and by the application of metal plates artificially cooled, artificially warmed, and of the same temperature as the surrounding air, and the sensibility was tested on both sides of the body by the old method of observing the distance apart at which the points of a pair of compasses are perceived as two points. He found that in healthy persons the sensibility of corresponding parts of the two sides of the body undergoes considerable variations, and that irritants to both sides can simultaneously increase or diminish it. This observation weakens the theory that diminished sensibility on one side *must* be compensated for by hyperæsthesia on the other, and *vice versa.* Secondly, Dr. Rumpf made out that a unilateral alteration of sensibility by irritants produces an opposite effect on the corresponding part of the other side, and that the normal sensibility of the two sides becomes gradually restored by a series of alternate positive and negative fluctuations (*Schwankungen*) of sensibility in the two corresponding regions. When metal plates are used, there are two effects which must be discriminated,—that of the initial difference of temperature of the plate and the skin, and a very feeble one which manifests itself after an interval, and which depends on an increase of sensibility on the side to which the plate was applied, and its diminution on the opposite side. The period during which the different fluctuations above mentioned last is materially dependent on the duration of the primary irritation, being, roughly speaking, directly proportional to the latter. Dr. Rumpf thinks two hypotheses of the "transfer" deserve attention: either we may refer it to reflex dilatation of the blood-vessels of the part itself (Westphal), or to changes in the calibre of the vessels of the central sensory organs which innervate the part in question. He thinks the second hypothesis may perhaps explain the fact that gentle prolonged irritation of the skin so readily causes sleep.—*Med. Times and Gaz.*, November 15, 1879.

EFFECTS OF LOCAL IRRITATION ON PAIN.—At the meeting of the Académie de Médecine, November 4, 1879 (*Bulletin*, No. 44), Dr. Dumontpallier read a memoir on "Local Therapeutical Analgesia induced by the Irritation of the Similar Region on the Opposite Side of the Body."

The following are the conclusions arrived at: "1. Every subcutaneous medicinal injection is a complex operation, in which a part must be assigned to the medicinal substance, and a part to the irritation produced. 2. The local irritation is transmitted from the periphery to the sensitive centres, and there determines a modification, the consequence of which is a diminution or cessation of the peripheric pain. 3. The real anatomical seat of certain peripheric pains should then be in the sensitive centres,—an assertion which seems demonstrated by the crossed action of induced peripheric irritation. 4. Irritation induced *loco dolenti*, or in the vicinity of the painful point, assuages or causes the cessation of pain; and when the irritation is induced at symmetrical points on the opposite side of the body, it proves often sufficient to cause a complete and durable cessation of pain."—*Med. Times and Gaz.*, November 15, 1879.

MENTHOL: AN ANTI-NEURALGIC.—Mr. A. D. Macdonald, writing in the *Edinburgh Medical Journal*, September, 1879, extols the virtues of this substance, which is a volatile solid obtained from Chinese or American oil of peppermint, as a remedy in the various forms of neuralgia. The solution he uses is the following: Menthol gr. i; spt. vin. rect. ♏ l; ol. caryoph. ♏ x: mix. To be shaken, and painted over the affected tract. Pain is in this way relieved in from two to four minutes, and within a minute or two more the attack ceases. In toothache the author has cleaned out the cavity of the tooth with a little cotton wool, and then placed a single crystal on another small piece of wool and inserted it, with the result that the pain instantly disappeared. A tincture of strength 1-50 is equally effective. Mr. Macdonald recommends menthol as a suitable external application in sciatica, intercostal neuralgia, and brachialgia.

CHAPS OF THE NIPPLE.—Dr. Hausmann recommends a solution of five grammes of carbolic acid and one hundred grammes of distilled water. The nipple must be thoroughly cleansed before being presented to the infant. This application is less painful than nitrate of silver, and rapidly heals the fissures. Dr. Steiner has also tried thymol solution, of one part to one thousand, but he has not found it so useful as the carbolic acid solution.—*Union Méd.*, October 21.

MISCELLANY.

THE Berlin *Gegenwart* of November 15 contains a report of some interesting experiments made by Dunstmaier to test the accuracy of Jäger's theory that the soul of every man and animal is to be sought for in the characteristic odor exhaled in each case. Dunstmaier, who unites in his own person the physiologist and metaphysician, was, until these experiments convinced him of his error, an outspoken opponent of Jäger's views. He is now, however, an enthusiastic convert. Dunstmaier's method was no doubt suggested to him by his familiarity with experimental science. He considered that light and the soul—if the soul is an odor—are both radiated, and that light can be, as it were, collected and fixed by a photographic plate coated with iodide of silver. What body, now, is as sensitive to odors as iodide of silver is to light? Evidently the nerves of smell in a dog. In the centre of the laboratory a cage containing twenty hares was placed, and a dog was admitted to the room. He at once made violent efforts to get at the hares, which, of course, in their terror rushed to and fro in the cage. After two hours of this torture the dog was killed, the nerves of smell and the mucous membrane of the nose removed, and rubbed up in a mortar with glycerin and water. The twenty hares had been exhaling their souls for two hours, and the dog, during all his panting and snuffing, inhaling them for the same length of time. The glycerin might be expected, then, to contain a certain quantity of the soul of the hare, the main characteristic of which is, of course, timidity. That this was the fact the following experiments seemed to prove. A few drops of the extract were administered to a cat: she ran away from some mice instead of pouncing upon them. By the subcutaneous injection of only two cubic centimetres a large mastiff was rendered so cowardly that he slunk away from the cat. By a similar experiment, in which, however, a young lion in a menagerie played the part of the hares, Dunstmaier succeeded in isolating the soul-substance of courage and in transmitting it to other animals. Still more interesting experiments showed clearly that these "psychotypic" glycerin extracts had a decided effect on the human species. Thus, after swallowing a small dose of psychotypic timidity, Dunstmaier had not the courage to believe in his own great discovery! This effect soon passed off, however. On the other hand, Jäger found a large dose of psychotypic courage of the greatest use while writing his last work on the Jews. Dunstmaier has published his investigations in the first volume of the "Transactions of the German Ozological Society," where our readers can also find the details of some experiments in which a timid, blushing girl was the original radiating body.—*The Nation.*

THE RECEPTION GIVEN TO DR. ATLEE IN NEW YORK.—On Friday evening, December 12, at the residence of Dr. J. Marion Sims, Dr. John L. Atlee, of Lancaster, Pa., was honored with a complimentary reception, which was attended by a great number of prominent men of the profession of New York and other cities, and the veteran surgeon of our State had a greeting which evinced the respect and veneration in which he is held.

Dr. Atlee, now in his eighty-first year, is vigorous and intellectually active, and still in the full tide of practice; and he seemed very happy in meeting so many of his appreciative friends. Amidst the warm geniality of the evening, Dr. Sims read to the assembled company a letter from Prof. Gross, one of the earliest professional friends and admirers of Dr. Atlee, commending his example of intelligent devotion to his work through such a long professional course, and expressed appreciation of the honored record of his pure and stainless life.

From the earliest days of ovariotomy, as practised by its originator, Dr. McDowell, the subject had interested Dr. Atlee, and his first operation, a double ovariotomy, was successfully performed in the year 1843. His example was followed by his distinguished brother, the late Dr. Washington L. Atlee, and from such precedents the operation has become firmly established as one of the great resources of surgery.

This tribute of the medical profession in New York to the toil-won honors of a worthy old surgeon was well bestowed. If there are among our readers those located in provincial regions who feel or fear that their fields of action are too circumscribed and small for the scope of their abilities, we would point to what has been so well done by this intelligent, laborious, and faithful worker in his sphere.

It has been asserted by a high authority that "it is not the amount of work which a man does that distinguishes him, but *what he does well:*" and here is truly an example of a long lifetime of work well done, and high distinction achieved, "far from the madding crowd" of a great city.

PILOCARPINE.—The *British Medical Journal*, after giving several experiments going to show the failure of pilocarpine, says, "Clearly the term oxytocic (hastener of labor) cannot be applied to a drug the effects of which are, after days of misery and dangerous illness, to reduce the patient's health and strength to the lowest ebb, while, perhaps, dilating the os to the size of a half-penny, and most likely not changing it in the smallest degree. Whatever the value of the drug may be, it is not an oxytocic. Professor Demme, of Berne, says that pilocarpine is an efficacious diaphoretic and sialagogue in the treatment of certain diseases of young children. In appropriate doses it is well borne by the younger patients. Unpleasant symptoms are very rare, and can probably be altogether prevented by small doses of brandy before the injection. The cases in which it seems especially suitable are the parenchymatous inflammations of the kidney, with dropsy, following scarlatina and diphtheria. The ages of the patients have been between nine months and twelve years. The doses administered have been from 5 milligr. (gr. $\frac{1}{12}$) to 2 centigr. (gr. iij.)."

FROZEN SECTIONS OF THE HUMAN BODY.—A correspondent of the *Allg. Wien. Med. Zeit.*, of October 21, states that at the meeting of the Munich Medical Society, October 16, Professor Rüdinger exhibited some remarkable results of his manipulation of the human body by frozen sections. Eight of these are carried longitudinally from the crown of the head to the sacral region, and are so connected together that they can be opened or closed just like the leaves of a book,—the fourteen surfaces when exposed exhibiting in their natural form and color all the anatomical details of the various organs. "A most interesting spectacle it was," says the writer, "to have the body in the erect posture before you, and opening or shutting any of these sections. A more complete demonstrative object for clinical instruction cannot be conceived."

THE death is announced of Dr. Soelberg Wells, the famous oculist, as having occurred at Cannes on December 2. Dr. Wells had been in declining health for some months, and is stated to have died of an obscure disease of the liver.

DR. B. LINCOLN RAY, son of Dr. Isaac Ray, the famous alienist, died in this city, December 11.

THE OLD OAKEN BUCKET.

(*As revised and edited by a "Sanitarian."*)

With what anguish of mind I remember my childhood,
Recalled in the light of a knowledge since gained:
The malarious farm, the wet, fungus-grown wildwood,
The chills then contracted that since have remained;

The scum-covered duck-pond, the pig-sty close by it,
The ditch where the sour-smelling house-drainage fell;
The damp, shaded dwelling, the foul barn-yard nigh it—
But worse than all else was that terrible well,
And the old oaken bucket, the mould-crusted bucket,
The moss-covered bucket that hung in the well.

Just think of it! *Moss* on the vessel that lifted
The water I drank in the days called to mind,
Ere I knew what professors and scientists gifted
In the water of wells by analysis find.
The rotting wood-fibre, the oxide of iron,
The algæ, the frog of unusual size,
The water—impure as the verses of Byron—
Are things I remember with tears in my eyes.

And to tell the sad truth,—though I shudder to think it,—
I considered that water uncommonly clear,
And often at noon, when I went there to drink it,
I enjoyed it as much as I now enjoy beer.
How ardent I seized it with hands that were grimy!
And quick to the mud-covered bottom it fell;
Then soon, with its nitrates and nitrites, and slimy
With matter organic, it rose from the well.

Oh! had I but realized, in time to avoid them,
The dangers that lurked in that pestilent draught,
I'd have tested for organic germs and destroyed them
With potassic permanganate ere I had quaffed;
Or perchance I'd have boiled it and afterwards strained it
Through filters of charcoal and gravel combined,
Or, after distilling, condensed and regained it
In potable form, with its filth left behind.

How little I knew of the dread typhoid fever
Which lurked in the water I ventured to drink!
But since I've become a devoted believer
In the teachings of science, I shudder to think.
And now, far removed from the scenes I'm describing,
The story for warning to others I tell,
As memory reverts to my youthful imbibing,
And I gag at the thought of that horrible well,
And the old oaken bucket, the fungus-grown bucket,—
In fact, the slop-bucket,—that hung in the well.

J. C. BAYLES.

—*The Sanitarian.*

NOTES AND QUERIES.

1502 WALNUT STREET, PHILADELPHIA,
December 25, 1879.

DR. H. C. WOOD,
Editor *Philadelphia Medical Times*:

DEAR DOCTOR,—During my recent visit to London, among the interesting and pleasant reminiscences was a day spent at St. Thomas's Hospital. Twenty years ago I attended, under my friend Dr. Peacock, at old St. Thomas's Hospital, and was always pleased with the activity and energy then displayed by both its medical and surgical staff, and was therefore desirous of contrasting the old with the new. By the courtesy of one of the staff of the new St. Thomas's I carefully inspected every portion, both medical and surgical wards, and was most agreeably pleased with its magnificent buildings, its perfect ventilation and sanitary arrangements throughout, and also to find the wards filled with every variety of medical and surgical diseases.

I also examined their physiological laboratory, microscopical and biological departments, and entered the dissecting-room and dead-house, finding all in most perfect order. In the surgical wards were a number of amputations and resections which had been treated by the antiseptic method, and with the most gratifying success.

After my return, I was much surprised, on receiving my number of the *Medical Times*, to find my ideas completely contradicted by your London correspondent. I therefore sent the same copy to the friend who took me to the hospital, and I send you, for publication, his reply.

Yours truly,
LAURENCE TURNBULL.

ST. THOMAS'S HOSPITAL, LONDON,
December 10, 1879.

DEAR DR. TURNBULL,—Thank you very much for giving me the opportunity of saying a word with reference to Dr. Fothergill's attack upon "the whilom proud St. Thomas's." What his special grievance against the staff is I do not know, though it is sufficiently obvious that he has, or thinks he has, one. Dr. Fothergill is quite correct in one point,—when he says that he possesses "no special knowledge" on the subject, but it is rather unfortunate that he did not endeavor to obtain some special knowledge to substantiate his "rumors" before publishing them in such an influential journal as the *Philadelphia Medical Times*. Facts could have been easily obtained; but it is obvious that Dr. Fothergill did not wish for the facts.

With regard to the staff, they are well able to take care of themselves. If they have been snubbed, it has been done very quietly indeed: no one has found it out except Dr. Fothergill. Men naturally "hesitate to offer their services" where there are no vacancies to be filled up, and when vacancies have occurred there has been no lack of applicants.

Many of its wards are *not* closed. It is true that two or three (out of seventeen large wards, besides seven half-wards in the block for infectious diseases) are untenanted, but it is absolutely necessary that there should be some empty wards into which to remove patients when the periodical cleanings of the regularly used wards take place. They are then thoroughly cleaned and disinfected in a manner which would be impossible if all the patients could not be simultaneously transferred elsewhere. Besides this, the enormous parochial rates extracted from the hospital by the Lambeth authorities (about four thousand pounds per annum) necessitate a smaller expenditure than that which was possible when the hospital was rated at only a nominal amount, as you doubtless know is the practice with regard to all other Royal hospitals in London. Respecting what more nearly concerns myself as a student of St. Thomas's, it is only necessary to point out that there is a mistake in the statements. So far from the students standing lowest in the percentage of passes, they actually stand highest in the pass-examination at the Royal College of Surgeons of England, and are only surpassed by one school at the primary examination at the same college.

I may also remark that for the last three years, at the examination for honors in the degree of M.B. at the University of London, the Gold Medal, given to the candidate who obtains most marks in the examination, has each year been obtained by a St. Thomas's student. Only a few days ago the Gold Medal at the M.D. Honors' examination was won by a St. Thomas's man. Surely facts such as these speak volumes for the excellent teaching of our medical staff.

With very kind regards, believe me, dear Dr. Turnbull,
Your very sincere friend,
A. B. C.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 14 TO DECEMBER 27, 1879.

FORWOOD, WM. H., MAJOR AND SURGEON.—Relieved from duty in Department of the South, and to report in person to Commanding General, Department of the Platte, for assignment to duty. S. O. 280, A. G. O., December 12, 1879.

CLEARY, P. J. A., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Plattsburg Barracks, N.Y. S. O. 225, Department of the East, December 18, 1879.

BARTHOLF, J. H., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months. S. O. 290, A. G. O., December 24, 1879.

BYRNE, CHARLES B., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for two months, with permission to apply for an extension of four months. S. O. 287, A. G. O., December 20, 1879.

HAVARD, V., CAPTAIN AND ASSISTANT-SURGEON.—His leave of absence extended one month. S. O. 91, Division of the Atlantic, December 22, 1879.

PAULDING, H. O., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for twenty days, from January 10, 1880. S. O. 224, Department of the East, December 17, 1879.

HALL, WILLIAM R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for an extension of three months. S. O. 180, Department of the Columbia, December 5, 1879.

APPEL, D. M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON. His leave of absence extended one month. S. O. 143, Division of the Missouri, December 17, 1879.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JANUARY 17, 1880.

ORIGINAL LECTURES.

CLINICAL LECTURE ON PITYRIASIS RUBRA.

Delivered at the Hospital of the University of Pennsylvania

BY LOUIS A. DUHRING, M.D.,
Clinical Professor of Dermatology.

GENTLEMEN,—I bring before you to-day a case of unusual interest and of great rarity; so rare, indeed, that some of you may never have the opportunity of seeing another. Before I go into this patient's history I will give you the diagnosis, since this may aid you in following what I shall say about the disease. We have before us an example of *pityriasis rubra.* Our patient has been in the hospital for the past six months, and doubtless some of you have seen him before. On his admission, the nature of the disease was considered, and a different conclusion was reached (with some hesitation, however) from that which has since been arrived at. It may be recalled that the patient had been in the hospital but a few days at that time, and that it was stated that the diagnosis was difficult, but that it rested between three diseases, viz., pityriasis rubra, psoriasis universalis, and eczema universale. With regard to pityriasis rubra, it was then said that this was a disease of great rarity, and one not likely to be met with. In eight or nine years no case had been seen at this clinic. It was remarked, in addition, that the existence of cutaneous infiltration and of itching and burning, together with the small size of the epidermic scales thrown off, and the comparatively small amount of desquamation, pointed away from pityriasis rubra. The diagnosis then made, provisionally, was that of eczema universale; but observation of the patient during the past six months shows that the disease is peculiar, and that it is, in certain respects, different from eczema, and is also a much graver malady than this disease. I will now give you the notes of the case during the time it has been under observation; but, before doing this, let me briefly go over the history of the affection from the beginning.

The patient is a laboring man, 56 years of age, and, until the outbreak of his present disease, healthy. None of his family, so far as he knows, have ever suffered from any affection of the skin, and he himself has all his life been free from eruptions of any kind up to within two years. About that time, being in the enjoyment of his usual health, he began to suffer from itchiness about the ears, with scaliness. This condition spread gradually over the scalp and down the back, at first giving but little annoyance, but gradually becoming more and more troublesome. By the beginning of spring (a year and a half ago) the symptoms began to increase in severity, and the disease spread until, by the end of summer, the whole surface was involved, the skin being everywhere more or less reddened, scaly, and somewhat itchy. As winter approached, the disease became aggravated at all points, and the hair, and later the nails, fell out. By the beginning of last spring it was at its height. The skin was thickened, red, and scaly. He was tortured by universal and constant itching, and his condition was pitiable.

It was at this date (April 10, 1879) that the patient applied for admission to the hospital. From the notes taken of his condition at that time, it appears that he seemed old, feeble, meagre, and worn in appearance, though he stated that he had not lost much flesh since the beginning of his illness. No healthy skin could be seen; the entire surface from crown to heel was diseased, the skin being of a uniform dusky-red color, somewhat infiltrated, and everywhere covered with thin, desquamating, whitish or grayish epidermic scales, which were constantly being loosened at their edges, curled, and thrown off in quantity,—a double handful or more in twenty-four hours,—in the form of pea- to finger-nail-size, papery lamellæ. On the palms of the hands the thickening of the skin was more decided, while the scaliness was not so marked. There were fissures in the flexures of the fingers, which were kept bent in a claw-like form. The skin of the soles was scaly, but not much infiltrated. The eyeballs were suffused, injected, and watery; the lids red and deprived of lashes. There was no exudation of fluid, no weeping or oozing; nor, according to the patient's account, had there been any moisture or discharge in connection with the disease from the beginning. The hair, which was grayish in color, was dry, harsh, and quite scanty. It had recently fallen out copiously. The finger- and toe-nails were decidedly diseased; they were soft, bulky, greatly thickened, rough and corrugated upon their backs, and of an opaque yellowish color. These were the nails which had taken the place of those shed some months previously. The patient complained of constant chilliness, and was even affected by the changes of the weather and barometer. Burning was the severest symptom, the itchiness of the skin not being considerable enough to cause scratching. His appetite was voracious. With the view of reducing the inflamed condition of the skin, he had been subsisting for several months previously chiefly upon bread and tea. He did not, however, complain of indigestion. His bowels were constipated; urine normal in all respects. His evening temperature was 99.4° F.

On his entrance to the hospital the patient was placed upon the most nutritious diet, and was ordered daily warm baths followed by inunctions, while a diuretic mixture containing acetate of potassium was directed internally. Under this treatment his condition ameliorated to a certain extent, but beyond this no influence seems to have been exerted upon the course of the disease. I will not weary you by going into detail with regard to the various forms of treatment which have been employed in succession without much avail. In addition to the acetate of potassium, strychnia, arsenic, iron, liquor potassæ, nitric acid, and flaxseed-meal have each been tried in turn. Daily warm baths, with inunctions of cosmoline, of carbolic acid, of the various forms of tar, have been used externally without exerting more than a slight palliative influence on the condition of the skin. Recently cod-liver oil has been taken in large doses internally, and at the same time employed as an inunction.

The course of the disease during the past six months has not been marked by any decided changes, although slight fluctuations have occurred in the patient's condition from time to time. The chief change which has occurred has been in the character of the desquamation. This has always been very considerable in amount. Even now a double handful of scales, thin, papery, with curled edges and mostly small, may be gathered from his bed every morning. We do not notice this scaly condition just now, because our patient has recently been anointed; but were the inunction stopped even overnight we should have scales forming again in large quantities. The skin, you see, is of a violaceous tint, with scarcely any variation as to shade in the different regions. As to subjective sensations, these are difficult to ascertain, as the patient is stupid and seems almost in a state of hebetude. The nurse, however, tells us he is subject to onsets of itching from time to time, while burning to a greater or less degree is an almost constant symptom. His general health appears now to be steadily improving. When admitted to the hospital he weighed but one hundred and two pounds: he now weighs one hundred and twenty-one pounds.

These notes are very instructive, and our patient having been six months under daily observation, we are, of course, able to form a much better idea of the disease than when he first presented himself last spring. Observe, to begin with, the unchanged character of the disease; it is in almost every respect the same as when we first saw it. In recalling the history, we may particularly note the universal character of the disease: the involvement of hair and nails, the latter in particular being profoundly affected; the dusky violaceous redness of the skin; its dryness, with no tendency to moisture; the constant and excessive desquamation and the peculiar character of the scales; the constitutional symptoms, ravenous and unnatural appetite, diarrhœa, and debility. Finally, we may recall the rebelliousness of the disease to all treatment. These symptoms are all significant, and some are of importance, and this leads us to consider the diagnosis.

We have here, unquestionably, one of three diseases, namely, pityriasis rubra, eczema squamosum universale, or psoriasis universalis.

Pityriasis rubra is one of the rarest of skin-diseases. Since the affection was first described many years ago by Devergie in France, a case has occasionally been described as occurring in that country, in Germany, or in England. In this country but a single undoubted case has been recorded, that reported a few years ago by Dr. George H. Fox in New York, and which was, moreover, exhibited at the meeting of the American Dermatological Association last year. Now and then in some large hospital, as that in Vienna, one or two cases are reported, which have been treated for several years without avail. The diagnosis is therefore of importance with regard to the prognosis.

Universal eczema is also a rare disease, especially in the chronic form. When it is strictly universal it usually occurs as an acute disease, lasting a few weeks or a month. Eczema, however, will almost always leave patches of sound skin here and there, and the affection is scarcely ever found, as in this case, invading every portion of the surface. In addition we have in most cases more or less moisture at one time or another and considerable infiltration of the skin, and usually very fine, branny desquamation. Here, while the infiltration is not marked, the scaling is excessive, and the flakes much larger than we find in eczema. The scales here, it will be remembered, have been as large as a finger-nail or even a quarter-dollar. The color of the skin in eczema is decidedly brighter and more vivacious and is less violaceous than we see here, for you observe that the skin is of a dusky-red, in places almost bluish, color. The nails in eczema are seldom so soft and crumbling as here, and they are generally punctate or worm-eaten in appearance. Eczema is generally accompanied by severe and almost constant itching, and, of course, with scratching. Here itching is occasional only and never severe; few or no scratch-marks can be seen, whereas burning is an almost constant symptom. In eczema there is not likely to be localized pigmentation in the form of patches, while in the case before us this is a peculiar and marked symptom. The pigmentation when found in eczema is more or less general or diffused. The course of the disease in eczema is almost always variable, the patient being at times much better than at others; exacerbations and relapses are common; it is shorter, and tends to terminate in cure; the effect of treatment is more decided. Here the course of the affection has been monotonous, with very little variation from month to month. In eczema there is little or no constitutional disturbance. Here we have observed diarrhœa, malaise, hebetude, and general debility to a marked degree.

Psoriasis is still more rarely than eczema found universal. Some places are almost always free of disease, and there is always a history of discrete patches to begin with. The color is brighter than we have here, and decidedly more inflammatory, and the skin is often the seat of burning heat and itching. There is more infiltration than in the present case, and the scales, while as large or larger, are thicker and laminated, which does not obtain in this disease; they exist in the form of an accumulation, and are more silvery and glistening in color. Here the scales are remarkably thin and papery. The course of the affection in psoriasis is variable, though less so than in eczema. The effect of treatment, especially of external treatment, is more decided in ameliorating the disease. There is no pigmentation accompanying the eruption in psoriasis; when this occurs it succeeds the latter. The nails are affected similarly to the present disease, but I have never seen them so severely affected in psoriasis or in eczema as here.

One more point to which I wish to refer: the influence of treatment, to which allusion has already been made. Tar, by way of example, which has been used here without special effect, would, if this had been eczema or psoriasis, either have done much good or much harm; and so with other remedies. Arsenic, *e.g.*, would have improved or irritated the skin. While cases have been reported as cured by carbolic acid, cod-liver oil, etc., it may be questioned, certainly, in some of these instances, whether the disease did not take its natural course. There are so few cases upon record that it is impossible to speak with certainty in regard to any of the remedies used. The influence of treatment may therefore be made use of as an aid to diagnosis; and this, in connection with the other points mentioned, has indicated clearly that we have here no other disease than pityriasis rubra.

As to the etiology of the disease, all is obscurity; not enough cases have been recorded to authorize any reasonable theory of causation. In the present case general debility seems a probable cause. The impaired condition of the nervous system noticeable may be the result of the skin-disease.

With regard to the pathology of pityriasis rubra, but few cases have been examined post mortem. In one case (Hebra's) nothing abnormal was found excepting the skin-changes, and these showed simple inflammatory alterations, affecting the upper layers of the skin only, and accompanied by some atrophy of the papillæ.

From what has already been said of the usual course of pityriasis rubra, it is evident that the prognosis must be guarded. Recovery sometimes occurs. Relapses are not rare; they may occur frequently. Dr. McGhie, of Glasgow, I remember, had a case under his care where the patient suffered seventeen years from pityriasis rubra, relapses occurring from time to time.

The treatment which we shall pursue in this case is that which was commenced a week or so ago, consisting of oleum morrhuæ both internally and externally.

Let me, in conclusion, caution you against arriving too quickly at a diagnosis in difficult cases; it is far better to postpone the diagnosis until you have had your patient for some time under observation.

(The patient was kept upon the external and internal use of cod-liver oil, the latter being pushed to the extent of an ounce four times daily for the remainder of his stay in the hospital,—some three months. No perceptible change occurred in his condition, excepting that the scales seemed to accumulate more rapidly and were of even larger size than at an earlier date.)

ORIGINAL COMMUNICATIONS.

A CASE OF IDIOPATHIC (?) PYÆMIA, OR BLOOD-POISONING, WITH REMARKS.

BY M. O'HARA, M.D.

Read before the Philadelphia County Medical Society, November 26, 1879.

On the evening of August 3, 1878, I was called to visit ——, white, American, of very robust appearance, 50 years of age. He had felt slightly unwell for a couple of days. He stated that he had never been sick during his life; that he had sluggish liver and a costive habit.

He had a pain below the right nipple, and a slight soreness in front of the right leg, from the instep up about three inches. I carefully examined him. There was a small external pile, not irritated nor the source of any irritation. The skin of the instep was hardened from the friction of the boot-leg, but there was, beyond the hardened cuticle, no œdema, no redness, no irritation or inflammation of the lymphatics or veins, and I could find no source of trouble in this region. His pulse was 90, and temperature 103°. There was some dulness of lower portion of right lung, but no pain on inspiration. The skin was not very dry, and, with the conjunctiva surface, had a slight yellow tinge. The liver seemed slightly enlarged from acute congestion, and was not acting, he having had no movement from bowels for two days. His urine was normal. The patient refused to go to bed. He was given aconite and liq. ammon. acetat., and, also, calomel and rhubarb.

August 4, 6 A.M.—The temperature 105°, and pulse 100. Has insomnia, some headache; kidneys active. At 11 A.M. he had a severe rigor for half an hour, with marked depression, followed by a flood of perspiration lasting for nine hours. Respiration frequent, temperature 106°, pulse 92 and full. During the day he partook freely of beef-tea and milk-punch, and had taken thirty grains of quinine. At 9.30 P.M. he had a chill of less violence, followed by a less profuse sweat of two hours' duration. At 11 P.M. Dr. Nebinger was called in as consultant. Our diagnosis was congestion of lung and liver. Treatment, dry cups and blisters over liver and right lung, quinine, calomel, ipecac, and potassic nitrate, and bromide of sodium.

August 5, 6 A.M.—Temperature 101°, pulse 104. 6 P.M., temperature 103°, pulse 102, with good force. He takes nourishment and stimulants freely. He has had five free bilious evacuations; the kidneys are active. There is no jaundice; sleeps poorly. Calomel, bromide, and quinine were continued.

August 6.—Sweats freely; bowels open twice; kidneys active; does not take nourishment well. He is somewhat heavy and restless, and sleeps poorly. 6 A.M., temperature 102°, pulse 106. 6 P.M., temperature 105°, pulse 102. 10 P.M., temperature 102°, pulse 104. The respirations are not notably interfered with.

August 7.—High temperature maintained; no new physical signs or symptoms.

August 8, 7 A.M.—There is suppression of the urinary secretion to-day. Some abdominal distention with gas, and tenderness upon pressure in umbilical region. At midnight took his fourth chill, with an attendant temperature of 105°; respirations 30. There is renewed congestion of the lung, with bronchial and crepitant râles and friction-sounds at apex of left lung. His chill lasted twenty minutes, with copious sweats at the same time, which still persist. He has looseness of bowels, offensive discharges, with some tenesmus. He is getting exhausted. Pulse 120 and quite feeble. He takes very freely of nourishment and stimulants. Examination of the rectum revealed nothing; but over the right ischio-rectal region there was discovered a patch of gangrene about the size of a quarter-dollar, with adjoining parts somewhat boggy. In an hour another gangrenous patch exhibited itself below the first, and the bogginess had extended, with fluctuation. Professor Gross was now added as a consultant, and upon opening the patch there issued gas of a putrid, not fecal, odor, and it was considered to be a gangrenous excavation. The patient sank rapidly, dying, with symptoms of thrombosis of brain, and clotting of blood in the heart, at 11 P.M., August 9, having been ill six days.

I have called this a case of idiopathic pyæmia because there was no wound or injury causing it; though this term should be dropped, as I believe there is no disease without an assignable cause.

Unfortunately, there was no post-mortem obtained; and yet post-mortems do not always clear up matters to us when there has been even a surgical injury. Take the case reported by Dr. T. W. McDowall in the *Lancet*, June 17, 1879:

> In brief, the patient had a slight whitlow. At a time of good bodily health she complained of some constitutional irritation, on the 13th, 14th, and 15th of the month. On the 16th she had rigors, depression, and prostration; offensive purgings; small and weak pulse, 150; respirations 40, and shallow; the fetid evacuations became more frequent. On the 17th violent delirium set in, early collapse, and rapid death. On post-mortem, the skin was mottled; the skin of top and inside of the thumb (affected part) healthy, not gangrenous; the dura mater adherent; atheroma of the arteries of the brain, and congestion of the pia mater. The cavities of the heart contained partially decolorized fibrin, but there was nothing in the spleen, liver, kidneys, gall-bladder, stomach, or intestines to account for death. He considers that there was no cause, or the cause unknown, to explain the severity of the symptoms or the fatal termination of the case.

In the article on Pyæmia, by Bristowe, in Reynolds's "System of Medicine," he says,—

> "Exclusive of a few cases in which, from want of a trustworthy history, or from some other cause, it has been impossible to determine what has been the original seat of the disease, and of a few other cases which may be found recorded, wherein, after very minute and careful investigation, nothing that could be regarded as a starting-point for pyæmia has been discovered, and which may possibly, therefore, have been idiopathic,—exclusive of these, all cases of pyæmia appear to take their origin in some one or more well-marked local conditions of disease; that it is almost invariably, if not always, preceded by some local suppuration, and that this is erysipelatous, gangrenous, or otherwise unhealthy."

To my own case and the one cited, certainly, this description will not fit.

I recall a case of chronic pyæmia I attended in 1878 for six weeks. The symptoms were frequent and irregular chills, sweats, varying temperature, recurring deposits in liver and lungs, with metastatic deposits in joints and the superficial cellular tissue. Here I was aided by Drs. Willard and Blackwood, and we could find no primary source of local infection in a wound or injury, and we considered that the only way of explaining this case was the constitutional condition of the patient himself.

Clymer, in Aitken's "Practice of Medicine," says,—

> "It is not uncommon to meet with cases, more frequently happening in the course of diseases than following surgical injuries, which present all the essential characters of pyæmia. Paget proposes to call it relapsing or chronic pyæmia (it resembles the typical pyæmia in the formation of unduly-dispersed, shapeless collections of pus), in the probability that the formations are due to some infection of the blood by the entrance of diseased or septic products, and often in the occurrence of rigors, profuse sweatings, and inflammation of joints. Paget believes that the difference between groups of acute and chronic pyæmia is not greater than between cases of acute and chronic tuberculosis; that differences in degree do not constitute or prove differences in kind."

Dr. Bristowe remarks (Reynolds's "System of Medicine," vol. i. p. 200),—

> "It may be asserted that the vast majority of patients have not been suffering from visceral disease, that but few of those attacked are recovering from acute disease, and that many, very many, victims of pyæmia have enjoyed the best of health up to the moment of the accident, or the operation, or the disease which has exposed them to the danger of the sudden onset of pyæmic symptoms."

To this I would reply that the man who enjoys the best of health is very rarely to be found. We meet with many cases of sudden death which formerly were called visitations of Providence, which, upon later, careful, scientific scrutiny, are found to be explainable. We are advancing daily in our explanation of hidden things. We know that many are not in perfect health who appear so. I recall here the case of Colonel Totten, engineer and builder of the Panama Railroad. He lived in the midst of malaria for some two years without being affected by it. Almost every one working under him had been affected with the disease. He seemed to be in perfect health, when he took a trip to New York, where he had a severe attack of the fever. He could not be cured of his disease until he left the air of New York and returned to the poisoned district of Aspinwall, where his disease vanished. Now, there was in his constitution some acquired condition of blood by his residence in a malarial district which we cannot understand, and, although he appeared to be healthy, he could not have been so, and his blood must have been saturated with miasm, ready, upon the exciting cause, for the development of the fever.

Sansom says, in his work on "Diseases of the Heart," "It is fair to conclude that aortic valve lesions are often present during life, but are only discovered after death." Again, "Hence it is very probable that obstructive lesions are more frequently present than detected." He speaks of many cases brought to hospitals moribund, attacked in apparent health with sudden visceral and cerebral affections, who were not before sick, and we find, after death, obstruction of the aortic valves. Further, he says that under certain circumstances of depressed vitality the valve already diseased tends to ulcerate; the patient is seized with rigors and symptoms of septic poisoning; the débris of the ulcerated portions of the valves form plugs, which, being carried by the current of the blood, cause embolism of many arteries throughout the system and general blood-poisoning. Here is this constitutional condition preceding depraved vitality; or, what is it? A blood unfit to carry on the purposes of life, — a condition we do not recognize until the announcement of the pyæmic symptoms.

Now, atheroma in other situations is quite common, not always noticed, and the depraved condition of blood occurring may be followed by the same condition of blood-poisoning.

Dr. Seiler has mentioned to me that in all the post-mortems he has examined for the purpose of obtaining a microscopical specimen of absolutely normal healthy kidney he has never succeeded, and he has been obliged to mount the fœtal human kidney for the purpose. The same, to some degree, exists in reference to the heart; most of the hearts have some degree of degeneration. I refer to these matters to show that not many persons can be accredited with perfect health from their appearance.

The patient whose case has been described dwelt in a most fashionable part of the city. The public inlets of the vicinity at times exhale a most offensive odor. In that neighborhood, within one square of his city residence, I had occasion to notify the Board of Health, three years ago, as to the condition of the sewer under the windows of a patient who died with typhoid or septic fever symptoms after having been sick one week. I have been informed that the same offensive condition of underground drainage still remains. The condition of Mr. ——'s residence was admirably suited to develop a poisoned state of blood. His sleeping-room had a stationary wash-stand, was in close relation to an offensive water-closet, and below the sleeping-room window was an open offensive drain-pipe. He died at his seaside residence, where matters were even worse. There was a water-closet arrangement in his house communicating with a street-drain, which emptied into a creek back of his house. With each tide the flow of sewage was dammed backwards and the sewage gas driven back, and its offensiveness could be personally perceived. It seems to me that the case might perhaps be better called fæco-malarial fever than idiopathic pyæmia.

We can scarcely doubt that pyæmia can be caused by the lungs drinking in pollution undiluted. Surgical pyæmia depends upon contaminations of the blood from infective matters developed within the system; idiopathic pyæmia upon infective matters absorbed from without.

Dr. William Hunt wrote a very interesting article in the "Pennsylvania Hospital Reports," vol. i., entitled "A Contribution to the History of Toxæmia." He states that three times in ten years he was made sick by noxious emanations from the human body, that many a one exposed to the cause has been stricken down by similar attacks, and that the sickness has been called typhoid or typhus, or some analogous name, without a recognition of the direct cause. The first time, he was sick for six weeks through breathing a gush of most offensive gas upon opening the abdomen of a dead body. This time there was a period of incubation of twenty-four hours. The second time, 1865, he was for five weeks sick, after a period of incubation of one week, from inhaling the foul air from a gluteal abscess. In 1867 he was sick three weeks, after a period of incubation of twenty-four hours, through inhaling the fetid breath of a patient, with offensive odors from a cancer. The symptoms detailed comprise all the essentials of a case of pyæmia,—anorexia, chill, high fever, delirium, rigors, offensive dejections, suppressed urine, etc. The lungs were the principal organs to suffer. He thinks he suffered from what might be called a mild case of pyæmia, but doubts that it was pyæmia, from the absence of prominent local lesions and the tendency to recovery rather than to death. He states that he was for seven years engaged in demonstrating anatomy, and never had an angry pustule while making dissections or performing operations, though very prone to cutaneous irritations, as from rhus-poisoning. Evidently there was some susceptibility in Dr. Hunt at the times of these attacks, rendering him liable to dangerous infection of his blood, and in all probability he possessed a good working power of his organs, especially the excretory organs.

I see no reason why there cannot be a mild case of pyæmia, as well as a mild scarlatina or a varioloid with a couple of spots, indicating all that one person will take as his share of a smallpox epidemic, while around him are persons dying of confluent or hemorrhagic smallpox. Some refuse in toto to take smallpox or its modification, vaccinia; but we well know that a depressed state of vitality is a great predisposing cause, and that those of vigorous vitality and healthy working organs are prone to recover when attacked with such diseases. I believe that many cases of pyæmia recover, and are mistaken for other diseases, such as malarial fever, congestive fevers, arthritis, typhoid, etc.

Dr. Cameron, of Dublin, reported (*Dub. Jour. Med. Sciences*, July 1, 1879) and, I think, established the fact of a low form of fever distributed from X.'s dairy at thirty points out of forty-two (seventy-one per cent.) with the milk delivered. He called it a non-diarrhœal typhoid; but the cases embraced the descriptions of gastric fever, typhoid fever, typhus, low forms of pneumonia, thrombosis, and typical cases of pyæmia. From my reading of the discussion on the paper, I gather that he established that X.'s dairy was the focus of infection of a fever which had as much claim to be called septic or pyæmic as typhoid.

Our knowledge of pyæmia is still chaotic. A committee of the Pathological Society of London (*Lancet*, May 24, 1879), to whom a grant of three hundred and fifty pounds was given by the government, has been working very hard for eighteen months, in co-operation with the London hospitals. Their report has not yet been published in the Society's Transactions. They make a distinction between septicæmia and pyæmia, on the ground of the absence in the one and of the presence in the other of metastatic suppurations. They make distinctions in degrees, as between septicæmia and septic intoxication. They make eight subdivisions of pyæmia, based mainly on the relations of thrombosis and softening clots to secondary abscesses, and upon the situation of those abscesses, while pyæmia due to acute necrosis and ulcerative endocarditis each occupy a place apart. They mention a fact which is striking,—the association of arthritic pyæmia with genito-urinary inflammation. In nearly all of the eighteen cases of pyæmia and septicæmia in which the blood was examined, bacteria were found, but by no means in constant proportion, nor in any constant uniformity of size and shape. They could not even trace relations between them. The facts before them justified them in believing that the presence of these organisms was rather evidence of the existence than cause of the production of the symptoms of blood-poisoning. Bacteria were observed during life, but micrococci, the spherical form of organism, which were shown by Mr. Cheyne, at a previous meeting of the Society, to be often harmless, occurred in large numbers in all parts of the tissues after death.

These organisms verge upon the "unknowable" so much, and have been so held up by surgeons and gynæcologists as an evil terror, that a reaction is setting in. Many are sceptical as to the need of "Listerism." Among others I would mention Professor Gross. In the case of chronic pyæmia to which I have alluded, I tried all kinds of antiseptics,—sulphites, carbolic acid, quinine, salicylates, and sulphide of calcium,—but the patient, nevertheless, marched slowly but steadily to death in six weeks.

Evidently Dr. Woodward ("Med. Hist. War of Rebellion") is no "bacteria fanatic," as he says, in reference to diphtheritic dysentery, the tissues must die or slough before these organisms enter them. He, moreover, says, "My own observations have satisfied me that a large part of the substance of normal human fæces is made up of these forms, which must be estimated by hundreds of millions in the fæces of each day, viz., the spherical elements, micrococci; the rod-like bodies, bacteria; filaments composed of both, and torula."

It is possible that future observers may hail them as the normal scavengers of the human system.

THE NEW ANÆSTHETIC—THE BROMIDE OF ETHYL.

BY R. J. LEVIS, M.D.,

Surgeon to the Pennsylvania Hospital and to the Jefferson College Hospital.

IT is generally admitted that there are essentials of anæsthesia which are not satisfactorily attained by the anæsthetics in ordinary use. The inconveniences of ether and the dangers of chloroform have suggested further inquiry among the large number of chemical substances which are capable of producing insensibility to the impression of pain.

In April, 1879, my attention was directed to the bromide of ethyl by Dr. Laurence Turnbull, of this city, who was, I believe, the first to experiment on the human subject with its anæsthetic properties, testing it originally on himself and afterwards on patients undergoing surgical operations, but its physiological action on some of the lower animals had been previously determined by other experimenters.

I have since that time continued to give practical attention to the subject of the anæsthetic use of the bromide of ethyl, and, whilst recognizing the fact that a very large number of administrations is essential to determine its merits comparatively with other agents, I have now had sufficient experience upon which to, at least, base some very decided impressions of its value.

Its principal physiological characteristics which will concern the surgeon are its rapidity of action and the quickness of recovery from its effects.

As far as observed by me, it does not influence the circulation, excepting to sometimes produce a slight increase in the rapidity of the heart's action and in arterial tension or pressure. The cerebral anæmia and the fatal syncope of cardiac depression, to which chloroform is liable, are dangers which do not appear to threaten in the anæsthesia of the bromide of ethyl.

Respiration is but little influenced by the bromide of ethyl, as I have administered it, beyond the ordinary characteristics of all anæsthetic sleep; but in this respect its action seems more to resemble that of ether than of chloroform. While making these assertions, I fully recognize the fact that the ultimate effects of all anæsthetics show that they are depressing agents.

Nausea and vomiting appear to occur less frequently in the anæsthesia of the bromide of ethyl than in that of ether and of chloroform, and the rapidity of recovery from its effects must render such impressions very brief and transient.

Commencing with the occasional and very cautious use of the agent, I have more recently adopted it to the exclusion of other anæsthetics, and am recording a series of detailed observations as to its effects.

Bromide of ethyl, or hydrobromic ether, is a colorless liquid, with a specific gravity a little greater than that of water. It has a decided and characteristic odor, which is thought to resemble that of chloroform, but is less agreeable. It vaporizes more readily than chloroform, and in this respect and in density is intermediate between ether and chloroform. It seems to be entirely eliminated through the lungs, and in this regard has a decided advantage as to safety over chloroform. The high vaporizing point of chloroform does not permit a rapid elimination from the body, and it is not entirely removed by the lungs. So, when some secreting organs happen to be, from disease, incapacitated, the nervous system is liable to become overwhelmed. The odor of the bromide of ethyl remains for a longer time on the breath of a patient than does that of ether and chloroform, but it seems to be quickly dissipated from the apartment in which it has been used. Its vapor is quite unirritating to the respiratory passages when inhaled, and in this quality has the advantage over both ether and chloroform.

General excitement and the tendency to struggle occur far less frequently than in the early stages of the anæsthesia of ether, and, apparently, even in that of chloroform. It is evident that the impression on the motor centres must be very rapid, and I estimate that complete anæsthesia is accomplished in one-third less time than is the case with chloroform. The recovery from its effects is even comparatively more rapid, in the greater number of cases the time not exceeding two minutes after the inhalation has ceased. The pupils dilate as soon as complete anæsthesia is induced, and, as the sentient state returns, they resume their normal condition. I suggest that the condition of the pupils may be an index and guide in the administration.

Anæsthesia with the bromide of ethyl is usually effected in from two to three minutes. The most rapid production of complete insensibility, in my experience, has been in one minute, in the case of a girl eight years old; the longest period has not in any case exceeded four minutes. When carefully administered, the quantity consumed has varied from one fluidrachm in the case of a child, iridectomy being performed, to eleven drachms used during an amputation of the forearm of an adult, occupying forty minutes, including the ligation of the vessels and the dressing of the stump.

The quantity of the article consumed in effecting anæsthesia will greatly depend on the method and manner of using it. Much of it is, of course, wasted by diffusion in the atmosphere. With great regard for economy, this waste may be prevented by imperviously covering the material on which it is poured. My own plan, with adults, is to pour two drachms of the bromide of ethyl on a small napkin folded up to a space of about four inches square, and then laid on a larger napkin, folded so as to be large enough to cover the entire face of the patient. It is well to secure the two napkins together with a pin.

The vapor of the bromide of ethyl is not inflammable; indeed, when dense, it extinguishes a flame if brought into contact with it. In this respect it is free from the danger incident to ether when administered at night in proximity to lights, or when the actual cautery is used. The article used by me was made by the firm of Powers & Weightman, manufacturing chemists of this city.

The ordinary essentials of the proper and safe production of anæsthesia are required in the use of the bromide of ethyl. That these essential details are apt, through ignorance or carelessness, to be disregarded, every practical surgeon is aware, and the frequent difficulties and occasional calamities will attest. When it is stated that whole pints of ether, or many ounces of chloroform, were used in the production of anæsthesia in a single case, he knows where was the fault. When it is asserted that "ether would not act and chloroform had to be resorted to," he knows why it "would not act."

It is becoming evident that the dread of unavoidable disasters from chloroform and the inconveniences of ether are tending to prevent their humane administration in many cases where the blessing of anæsthesia is due to the sufferer. This is particularly so in localities where etherization, simple and safe as it is, seems strangely ignored. In a prominent French hospital I not long ago witnessed the application of the actual cautery and other painful procedures without the resource of anæsthesia.

Whilst feeling inclined to impress caution in regard to the use of so powerful an agent as the bromide of ethyl, I am, from a basis of experience, inclined to recommend its use to the profession.

NOTES ON A CASE OF MILD TYPHUS OR TYPHO-TYPHUS FEVER OCCURRING AT THE PHILADELPHIA HOSPITAL.

BY PROF. WILLIAM PEPPER.

DESPITE the fact that a certain number of deaths from typhus fever are reported every year in the returns of the Board of Health in this city, the continuous prevalence of typhoid fever is so much more important and noticeable that it has finally resulted in a general agreement that the latter is the only form of continued fever that habitually occurs in this community. So far is this the case that I fancy the feeling of many will be the same as my own, that a large proportion of the deaths reported in ordinary years as from typhus have been cases of typhoid where a careless diagnosis has been made.

To show the comparative reported mortality from these two fevers, as well as from relapsing fever and cerebro-spinal meningitis, I have had the following table condensed from the reports of the Board of Health:

	1867.	1868.	1869.	1870.	1871.	1872.	1873.	1874.	1875.	1876.	1877.
Typhoid fever	367	395	373	409	313	369	382	472	420	773	542
Typhus "	138	108	49	69	37	35	31	26	21	27	15
Relapsing "	.....	.....	.....	162	7	1	.....	1	.....	.....	.....
Cerebro-spinal meningitis...	102	54	36	36	44	128	246	82	83	85	56

It will be seen that typhus fever has not prevailed in what may in any sense be termed an epidemic form since 1870 (when relapsing fever was so prevalent), and that no extensive or at least no fatal outbreak of it has occurred since 1867 and 1868. It also occurred quite extensively in 1864 and 1865.

I have had the opportunity of observing and studying closely a large number of cases of typhus fever in each of the periods above mentioned, when it prevailed extensively. Certain peculiarities occur to my mind as distinctly presented by them. The severity of the disease varied markedly at the different periods. It is difficult to speak accurately on this point in the absence of any data for the calculation of the percentage of deaths in different years, since an individual experience, however extensive, may have been with a series of unusually severe or unusually mild cases. I think the type of the disease in 1864–65 was more grave than at any subsequent period. Again, it was noticeable that the characters of the typhus fever were decidedly modified by other zymotic diseases prevailing at the time: this was particularly the case with cerebro-spinal meningitis and relapsing fever. Mixed with the grave cases has always been a large proportion of mild cases, in which, while the nature of the case was undoubted, the symptoms were imperfectly developed and the duration more or less curtailed. But the most interesting and important modification, and the one most constantly present in each year, has been the presence of some of the features of typhoid fever in cases of undoubted typhus. This might have been expected whenever any large number of cases of the latter disease occurred in a community where typhoid fever is always as prevalent as it unfortunately is in Philadelphia. I have never failed to meet with such cases whenever typhus has occurred here to any extent.

The most marked peculiarities of such modified cases have seemed to me to be the occurrence of looseness of the bowels, with some slight degree of distention of the belly, slight attacks of epistaxis, and some bronchial irritation. But all doubt as to the true nature of the case, and as to the predominating morbid element present, has been solved by the more abrupt onset, the early appearance of the eruption (third or fourth day), and its characters, and by the occurrence of crisis from the tenth to the fourteenth day. When we reflect that the symptoms mentioned as coexisting (diarrhœa, epistaxis, bronchial irritation) are merely significant of the occurrence of wide-spread congestion and irritation of the mucous membranes, and are not in any sense peculiar to typhoid fever, although their appearance in any case of continued fever justifies a suspicion that the attack will prove of that nature, it is evident that the mere occurrence of these symptoms in a case of typhus fever does not authorize the assertion that the poisons of the two great fevers are associated. They may be accounted for by the supposition of a sharp catarrhal attack coexisting with the outbreak of the true typhus fever symptoms. In cases where the eruptions of both typhus and typhoid are present, as I have occasionally seen them, or where throughout the course of the case the symptoms are distinctly modified, the assumption of a dual poison is apparently necessary.

According to my observation, the mortality in cases of modified typhus fever has been remarkably small. In the cases where I have had an opportunity of making a post-mortem examination, the intestinal lesions had not progressed beyond the stage of enlargement with congestion (shaven-beard appearance) of Peyer's patches, and of swelling of the solitary glands, although in several instances the duration of the disease had been such as would have insured more advanced lesions had the case been one of uncomplicated typhoid fever. It would appear, from these and other circumstances, that, while it is altogether probable that both poisons coexist in such cases, each of them undergoes modifications which influence its activity and evolution.

I have been led to offer the foregoing remarks in consequence of the reappearance of a mild form of typhus fever in the wards of the Philadelphia Hospital after an absence of at least six or seven years. The notes of the case are briefly as follows:

J. W., æt. 30 years, living in a decent boarding-house in the northwestern part of the city, and employed on the line of the Pennsylvania Railroad, was attacked, about November 7 or 8, with fever, weakness, and headache; there were also, at first, nausea with vomiting, and some spontaneous diarrhœa, with thin, yellowish stools. He also had slight epistaxis. After the first two or three days the bowels became costive, and continued so throughout the case. Epistaxis did not recur, and there were no bronchial symptoms.

On admission, the temperature was 104°; the pulse very rapid, small, and weak; the mind was very dull, with occasional mild delirium; the conjunctivæ were minutely injected, the pupils about normal; the tongue was very dry, but not heavily coated. A copious eruption was present when he was admitted. It existed on the trunk, front and back, on the thighs and calves, and on the arms, but was most marked on the anterior aspect of the trunk. Here the surface appeared mottled, being sprinkled quite closely with small, roundish, dark-red spots, not elevated above the surface, and, on pressure, not disappearing entirely, but leaving a persistent centre (petechial), while the peripheral zone of congestion went and came as pressure was made or removed. During the two or three days succeeding his admission the extent of the centre which thus remained persistent distinctly increased, until in some instances the whole spot was uninfluenced by pressure. No successive crops of eruption appeared.

He was treated with moderate doses of quinia (gr. xij daily), fluid diet, small amount of stimulus.

The pulse improved soon, so as to indicate a favorable prognosis. The eruption began to fade on the ninth day. During the early morning of November 18 (tenth or eleventh day) an abrupt fall of temperature from 104° to 100° occurred, with free and general sweating. That evening the temperature rose to 102½°, but fell during the night, and continued normal or even below normal. There was a corresponding fall in pulse-rate and improvement in all other symptoms, so that by November 21 (fourteenth day) convalescence was remarkably far advanced, and the man was soon after able to leave bed, and has continued well.

Postscript.—In the interval between making the above remarks and revising the printed proof of them, several cases of a similar character have been admitted to the Philadelphia Hospital.

TRANSLATIONS.

Naso-Pharyngeal Chondroma.—Herteux (*Cbl. f. Med.*, No. 48, 1879; from *Bull. de la Soc. de Chir.*) had a patient, twenty-two years of age, who had suffered for five years with an enlargement below the inner corner of the left eye. The left, and later the right, nasal passage became gradually filled up, so that the patient had to breathe through the mouth. For three years previously the left eye had been prominent; vision was diminished. A perforation had occurred through the palate. The affection was painless, the general health of the patient unaltered. On examination, the face was found broadened, nasal voice, mouth always open. Nose broad, flattened, in the upper left side a hard, roundish growth. The left eye was dislocated forward and outwards. The patient could only distinguish between light and darkness. A tumor could be observed in the left nasal passage, filling it and pressing the septum aside. The hard palate was convex, and perforated with a tumor filling the perforation. The velum was pushed forward. The naso-pharyngeal space was felt to be filled with a round, smooth, bone-like, absolutely immovable tumor. The question lay between osteoma and chondroma. A needle thrust easily into the depths of the tumor showed its cartilaginous character. There was no tendency to hemorrhage. An incision was made, beginning at the left ala nasi, running up to the inner corner of the eye, and then across the root of the nose. The soft parts being then dissected back from the bone, the tumor was laid bare and was removed, together with a portion of the upper jaw, having to be taken out piecemeal. It grew from the left side of the nose, filled the antrum of Highmore, and perforated the nasal septum. It weighed one hundred and thirty-five grammes. There was but little hemorrhage. The wound healed in three weeks, and the growth had not returned eight months later.

Chondroma of the nasal passages is very rare. Weber found it only eight times in 307 tumors of the nasal passages, and out of 267 chondroma of various parts of the body, only 8 occurred in this region.

The Influence of Certain Antiseptics upon the Bacteria of Urine.—The question as to the relative behavior of the different varieties of bacteria found in various fluids under the influence of antiseptics is one which has of late attracted considerable attention, and our columns have on several occasions within the last few months contained references to experiments made in this direction. Dr. Theodor Haberkorn, in an inaugural dissertation recently published in Dorpat, details the results of a number of experiments undertaken with a view to compare the behavior of the bacteria found in Bucholtz's infusion with that of urinary bacteria. His results are as follows. While 1 part of corrosive sublimate in 20,000 parts of Bucholtz's fluid destroyed the movements of the contained bacteria, 1 part in 25,000 was sufficient to kill those developed in urine; of thymol, 1 part in 2000 was required in Bucholtz's fluid, while 1 part in 3000 sufficed for the urinary bacteria. On the other hand, while 1 part of benzoate of sodium to 2000 parts killed the bacteria contained in Bucholtz's fluid, even such a concentrated solution as 1 part to 875 failed in urine. Dr. Haberkorn gives a table comparing the effects of benzoic acid, creasote, "carvol," and carbolic acid, and also makes some remarks upon the bactericide effect of ethereal oil of mustard.

Resorption of Extravasations of Blood.—O. Angerer (*Cbl. f. Chir.*, No. 49, 1879), in a recently published brochure, concludes as follows: (1) The injection of fermenting blood into the arteries and veins gives rise to extensive thromboses and emboli in the larger and smaller vessels of the living body. (2) In extravasations occurring in the living organism fermentation comes into play. (3) This fermentation is dependent for its degree upon the quantity of the extravasation, as well as the rapidity of its absorption. (4) The absorption of blood gives rise to fever.

The author calls attention to Professor Wahl's experience in the fever occurring after the employment of antiseptic precautions in operations. Wahl thinks that the so-called "aseptic fever" of Volkmann is probably due to the fermentive influence of the extravasated blood. In conclusion, Angerer recommends the subcutaneous injection of defibrinated blood and serum instead of transfusion. Injected in small quantities, no danger is to be apprehended. (Unfortunately for Angerer's theory, small injections of this sort do little good, and larger ones are not by any means free from danger.)

Parenchymatous Injection of Chloral in an Erectile Tumor.—Dr. Antonio Pupi (*La France Méd.*, 1879, p. 659; from *Lo Sperimentale*) had under his care a patient showing a tumor of rapid growth developed in the naso-palpebral region. Injections of chloride of iron were suggested, but rejected on account of possible danger. The galvano-caustic was also rejected, because the tumor was so near the eye. Vaccination was attempted, but failed because imperfectly performed. Simple acupuncture likewise failed; when chloral was suggested. It is known that chloral coagulates fresh blood as well as the white of egg, and that this coagulum is insoluble. Moreover, chloral is a hæmostatic and cicatrizant, which is often found to heal ulcers and varices. Chloral, therefore, was injected at three separate times, in the proportion of one to ten in water. After each injection there was almost immediate tumefaction, but there was no pain, and it only lasted four or five days. An entire cure resulted.

Odorless Iodoform.—No satisfactory method of disguising the penetrating odor of iodoform has yet been proposed. The following formula, however, it is asserted, does away with the smell entirely:

℞ Iodoformi, gr. xvi;
Bals. Peruvianæ, gr. xxx;
Vaselini,
Adipis,
Ung. glycerinæ, āā ʒij.—M.

If desired in a fluid form, the following formula may be employed:

℞ Iodoformi, gr. xvi;
Bals. Peruvianæ, ℈iiss;
Alcoholis,
Glycerinæ,
Collodii, āā ʒiij.—M.

—Dr. Lindemann, in *Allg. Med. Ctrl. Zeitg.*, 1879, No. 74.

Chrysophanic Acid (Chrysarobin) in the Treatment of Syphilitic Eruptions.—Dr. A. Reumont recommends an ointment of ʒss to ʒiss chrysophanic acid to the ounce of vaseline, to be well rubbed into the palms and soles in stubborn palmar and plantar syphilis. If rest can be procured, the inunction should be repeated night and morning; otherwise only at night. Internal treatment should of course be kept up.—*Berlin. Klin. Wochens.*, 1879, p. 322.

Tayuya.—Recent investigations add weight to the estimation of the value of this drug in scrofula and syphilis. Various writers cited in the *Centralblatt für Chirurgie* (No. 48, 1879) give notes of fifteen cases of syphilis and one of ulceration of the lip of uncertain origin cured by tayuya within a month. Alpago-Novello gives the case of a girl nine years of age, suffering with scrofulous ulcers and submaxillary lymphatic engorgement, lymphoma of the neck, etc., who was much improved under the use of the tincture. Of two other similar cases, one was almost or entirely cured, the other much improved.

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LEADING ARTICLES.

SIR WILLIAM JENNER ON THE TREATMENT OF TYPHOID FEVER.

SIR WILLIAM JENNER, perhaps the greatest living authority on this subject, having been invited recently to deliver an address before an English medical society,* chose as his theme "The Treatment of Typhoid Fever," a subject upon which he had never previously published his opinion. We regret that we cannot reproduce here the earlier part of Sir William's address, in which he speaks of the disease in general, its normal course, etc., but must proceed at once to indicate in a general way the plan of treatment which he recommends. And first, rest, quiet, and fresh air are insisted upon. With regard to diet in general, the patient should be restricted to liquid diet, with farinaceous food, and bread in some form if the appetite requires it. Broths should be varied, and strong vegetable essences may be added to them. The indiscriminate employment of milk in almost unlimited quantities as diet in fever has led to serious troubles. Curds are often found in the weakened stomach, where they may remain unchanged and produce considerable disturbance of the system. A patient with temperature unduly raised, restless, sleepless, or drowsy, vomits a quantity of curds, and at once the restlessness ceases, the temperature falls, and the patient drops into a quiet sleep. Or, the undigested curds may accumulate in the bowel, inducing flatulent distention and pain, restlessness, and increased febrile disturbance. In one case, an enema brought away a large vesselful of offensive, sour, undigested curds. A pint of milk is equal to a mutton-chop, and yet two quarts, and even more, of milk in twenty-four hours are sometimes given. Can such an amount of solid animal food be digested? and, if it could, is such an amount of animal food good for a patient suffering from typhoid fever? He is weak because of the presence of the fever, and not from lack of food.

An unlimited amount of pure water should be allowed; it passes off by the kidneys, skin, lungs, etc., and is of much service as a depurating agent. If the bowels are confined in the early stage of the disease, a simple enema may be given; otherwise irritation and catarrhal inflammation of the bowel may be produced, with troublesome diarrhœa. Small doses of mineral acid well diluted are grateful and may be of use. The frontal headache common in the earlier stages of the fever is sometimes best allayed by cold applications, while in other cases warm ones are better. These, together with darkness and quiet, are usually sufficient. For the sleeplessness, which is sometimes a serious symptom, Sir William gives henbane, chloral, and bromide of potassium. He has seen good results from a combination of the latter, and no ill effects when used before the stage of nervous prostration. If the patient's temperature be high, a tepid bath or sponging the surface will often at once induce sleep and no drug be required. Opium, though sometimes useful, is on the whole a most dangerous remedy. In the early stage of fever it disturbs digestion and checks secretion. In the later stages he has seen several cases fatal from its influence on brain, heart, and secreting organs, and at this period condemns the use of direct sedatives, both opium and chloral.

The chief causes of diarrhœa, in addition to the specific intestinal changes, are—1, error in diet, including excess of fluid; 2, catarrhal inflammation and irritability of the bowel. So long as the stools do not exceed four or five a day, of moderate quantity, this is rather an advantage; but when from their number or quantity the patient becomes reduced, treatment, varying with the pathological condition producing the diarrhœa, must be instituted. When the stools are strongly alkaline, sulphuric acid sometimes affords marked relief. When merely frequent, four ounces of starch-water thrown into the rectum morning and evening will often check this frequency. Three to ten drops of laudanum in an ounce and a half of starch-water may be employed *after* the passage of the stool. When very offensive, a teaspoonful of animal charcoal, two or three times a day, will correct the fetor. Carbonate of bismuth, in twenty-grain doses every four or six hours, is the best remedy for catarrhal inflammation of the bowel itself. If the bowels are constipated, a small daily enema of thin gruel may be used. Laxatives should never be given by the mouth.

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* Lancet, vol. ii., 1879, p. 175.

Sir William is no believer in the efficacy of turpentine applied externally in flatulent distention. Pepsin and acid administered with the food, or the administration of partially-digested food, is often advantageous, as is also charcoal. The long intestinal tube may be occasionally introduced. Alcohol, in fit doses, improves the nerve-energy, and so increases temporarily the muscular power of the intestinal and abdominal walls.

When blood, in ever so small a quantity, is observed in the stools, the patient is to be kept in the recumbent position. He should not be allowed to make any effort, and on no consideration to sit on the close-pan or raise himself or be raised by others to pass urine, etc. If the patient is unable to pass urine when in the recumbent position, the urine should be drawn off by catheter. All movement of the bowels should be restrained as far as possible, and for as long as possible. An ounce of starch-water, with ten or fifteen drops of laudanum, may be given at once as enema, and then a dose of acetate of lead every two or three hours by the mouth, with three to five drops of laudanum, or fifteen grains of gallic acid in a wineglass of iced water, every two or three hours, with the laudanum. Sir William thinks he has seen benefit from small doses of turpentine. It is a point of the greatest moment to keep the bowels empty, and therefore nourishment should be given in the most concentrated and absorbable form,—*e.g.*, essence of meat in tablespoonful doses frequently repeated. All nourishment which leaves solid residue—*e.g.*, milk—should be avoided. Lumps of ice should be sucked, and all essence of meat, etc., be iced. When the loss of blood is sudden and copious, or is frequently repeated, the subcutaneous injection of ergotin may be employed, and an ice-bag applied over the region of the ileum. The faintness due to considerable sudden bleeding from the bowel should not be removed by stimulants unless it immediately threatens life.

Perforation of the coats of the intestine by the extension of the ulcer in depth, and finally by sloughing of the peritoneum, is, so far as his certain experience goes, always fatal.

In profuse perspiration, the patient's skin should be dried with a warm napkin every few minutes if necessary, and dry cloths placed between the wet linen and the skin; alcohol may also be given. Death has occurred from asthenia when the nurse has carefully covered up the sweating patient and enveloped him, so to speak, in a vapor-bath.

Temperature so high and continuous as to be a cause of danger, either directly or indirectly by favoring serious degenerative changes of structure, is present in exceptional cases only, and for such cases alone is the direct application of cold to the general surface required.

Alcohol, by the influence it exerts on the nervous system, is of the greatest value in the treatment of typhoid fever, but it should only be given for the purpose of attaining a definite object; its effects should be watched, and the dose so regulated as to attain the desired effect from as small a quantity as possible. As the treatment in reference to many symptoms is, in the present state of our pathological knowledge, tentative, it may have to be varied frequently, both as regards continuance and dose of drugs, of stimulants, and of cold. Sir William's experience has impressed on him the conviction that that man will be the most successful in treating typhoid fever who watches its progress not only with the most skilled and intelligent but also with the most constant care, and gives *unceasing attention to little things*, and who, when prescribing an active remedy, weighs with the greatest accuracy the good intended to be effected against the evil the prescription may inflict, and then, if the possible evil be death, and the probable good short of the saving of life, holds his hand.

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CORRESPONDENCE.

LONDON LETTER.

THE editor of the *British Medical Journal* has taken to reading my letters, and has inserted some extracts from them in his journal. I appreciate the compliment, but I fail to understand his motives in the selection of the paragraphs which, taken alone, may give offence to sundry persons, and his utterly ignoring those which would give universal satisfaction: perhaps they are not comprehensible by an Aryan mind. He disapproves of some of my remarks, and the following are extracts from the calm and dispassionate language of his judicial rebuke:

"This singular and monstrous production:" "it is evidently an article manufactured for foreign consumption, and highly salted to bear exportation:" "we must call this correspondent's attention to the extreme impropriety of such utterly unwarrantable statements as he is in the habit of using to fill up his correspondence:" "utterly absurd calumnies:" "is really outstepping the usual privileges of historical fiction." Of Mr. Hart's great abilities as an editor there can be no two opinions, but whether he is always as discreet as he is able admits of question. He is a clever journalist, but when he aspires to pose as a *censor morum*, then, I think, he is curiously forgetful of his own history. Personalities are not in my line, but if ever I should descend to them my first letter will be devoted to an accurate account of the present editor of the *British Medical Journal* and of his relations to the profession, though I cannot venture to hope that all that I shall then say will meet with his approval. He objects to my alluding to the closed wards of St. Thomas's, yet writes, "It is most true that a block of the building is unused, in consequence of the lay administrators having overbuilt."

As to my remarks on "doctors' wives," I have nowhere even insinuated that their position is merited, as has been assumed. It must be remembered that this is an old and, socially, a very conservative country, and it is only since 1815 that the profession, as a body, has had anything like a social status. Before then, men could set up as doctors without any examination, and on the strength of an apprenticeship to a doctor only, and even without that, some having commenced their career as stable-boy or errand-boy to a doctor. Consequently, doctors' wives have not yet gained a recognized social standing, such as they must get in time. According to Macaulay, in Queen Elizabeth's time the chaplain was not allowed to marry the lady's maid without the consent of her mistress; but now a clergyman's wife has a very good social position. The position of the medical profession is rising, and some day in the future a doctor may be made a peer, but such rank is denied to medicine, though the sister professions, as they are termed, are not so treated. The Church has a number of lords spiritual in its bishops, while successful lawyers commonly are made peers. It is nonsense for us to say that our profession is recognized here socially as it deserves to be, in the face of this fact, while the treatment of the medical officers in the army and navy has deluged our journals with letters of complaint for years back. A recent royal warrant has improved matters, but whether it will be adhered to or not after the present urgent demand for doctors for the services is mitigated to some extent, will remain to be seen. I know nothing of club-life, but since the notices of my letters have appeared in the *British Medical Journal* I have had a good deal of information afforded to me about the social position of the profession; and it appears that at the very select clubs doctors are not eligible for election, and that comparatively very few are to be found in the literary Athenæum Club,—the home of literature. If the profession are really satisfied with their social position, then, surely, a great deal that I have read in the medical journals for the last twenty years was unnecessary and unjust. I believe that up to the time of the Crimean War an assistant-surgeon in the navy could be flogged; and it has only been from its necessities, and not from its voluntary action, that the War Office has given anything to the profession. Whenever it has had a fair supply of doctors, it has played fast and loose with its warrants; when dire necessity has compelled it to do something, that something has been as little as possible and been given in the most grudging spirit. The profession, as a body, scarcely has a recognized standing. Each unit has its own social status. Some stand high, like Sir Wm. Jenner, though he would not get more than his merits if he were made a peer; while at the other end of the profession are men who give advice and medicine for fourpence (see the *Medical Press and Circular* for November 22, 1876). Each man makes his own position, to a large extent, for himself and by himself; and he starts handicapped, in my belief. There are prospects of something better in the future, and the British Medical Association will, in my belief, have much to do therewith. Through it the profession are commencing to have a distinctly articulate voice, and the welding together of the different units of the profession is being achieved by their annual meetings and by the Association's journal. And I say, readily and willingly enough, that much is due to Mr. Ernest Hart for the manner in which he has worked to attain this end; while the number of members of the Association has been immensely increased of late years, and the committees of the Association, in which he takes a prominent part, are doing good work, and deputations from them are even received by our legislators. But whatever the profession has got it has struggled for and fought for. It has had nothing spontaneously given to it. Socially, each man is a unit rather than one of a recognized body; each and every doctor stands on his own merits or demerits; and the same may be said of each doctor's wife, whether she may be one of those who can attend a royal levee, or a poor, industrious woman with a large family, who cheerfully divides the work of the household with a single maid-of-all-work. Surely, one may describe things without, in doing so, being censorious; but to some minds this distinction seems incomprehensible, and silence or praise is alone to be practised. I am very much tempted to transcribe a letter written to me lately in reference to a practice offered for sale, which shows up the seamy side of the profession in a very illustrative manner, and tells a tale of some of those men of whom the profession are not proud, not to put too fine a point upon it. But perhaps, after all, it will be more discreet to withstand the temptation.

Having described the general practitioner,—the all-around man, who does everything, whether in town or country, and who has a consultation when in difficulties,—it may be well to describe the consultant. It is my experience to find that Americans, doctors and other, do not have very definite ideas on the subject of consultants, and, still more, specialist-consultants. Even the leading and best-known men in the United States of America are more general practitioners than is the case with leading men here. Talking with an American doctor one day, I casually remarked that I had sent a certain patient to another consultant; he remarked, "Well, I should not send a patient to another doctor until I had had a good try at him myself." And it is clear that Americans, when over in Europe, study a whole variety of departments; very rare exceptions studying special subjects, and those only laryngoscopy, ophthalmic and aural surgery. Some devote much attention to diseases of women, and others to diseases of the urinary organs. Nor does it seem that there is any strong tendency towards specialism in the United States of America,—*i.e.*, men do not work and write so much on diseases of some one system, and stick to that, and that almost only, as is the case here. Here we find a certain set of men who are known in relation to diseases of the nervous system, of whom the best known are Russell Reynolds, C. Bland Ratcliffe, J. Hughlings Jackson, Ferrier, and others; while Bucknill, Hack Tuke, Maudsley, L. Forbes Winslow, and others, are consulted rather in cases of mental derangement than in what are known as diseases of the nervous system not affecting the intellect. Others, again, are known as specialists in diseases of the chest; some rather for lung-diseases, others rather for diseases of the heart. A whole host of men are devoted to obstetrics and diseases of women, some going in rather for obstetrics, others for diseases of women. Garrod stands almost alone as an authority on gout. Here the same thing holds good of surgeons, nearly every one now devoting his attention to some special subject, as Sir Henry Thompson, who devotes himself exclusively to diseases of the urinary organs. Indeed, it is now almost essential to success that a man who decides to become a consultant shall devote himself specially to one subject, write articles on it, write a book on it, and have his name known in connection with that subject, so that the general practitioner shall know of him as a specialist in that department, and consult him accordingly. It is the quickest way to become known, and brings in patients without much delay. Then, of course, the growth of special hospitals has largely fostered this attention to special departments; the specialist heads for the special hospital, which welcomes him, and is glad to have him as an addition to its staff, while an appointment to a special hospital expedites the specialist's progress towards practice. By such means a number of men readily succeed in the world who in by-past days would have had a long, hard struggle unless they had the good luck to become attached to a general hospital. The staffs of general hospitals hunt in packs; the surgeon calls in his physician colleague, and he again, if required, his obstetric colleague. Of course this is done, more or less, all the world over. Specialists, in order to attempt the same thing, are largely arranged in groups, and send patients back and forwards, and so are of mutual advantage to each other. There are men who will poach, but I very much doubt if that pays in the long run. Then, of course, each specialist cultivates the general practitioners who consult him or call him in,—invites them to dinner, and presents them copies of his books.

Consequently, then, in different little areas over the country we find nearly all the people of a certain neighborhood will almost invariably go to certain consultants, while at another place the names of these consultants are unknown, and everybody goes to two or three other consultants. For instance, I have a nest of patients in South Wales, but how I came by them in the first place I have not the faintest idea. When the general practitioner wants a consultation he pitches upon some one known to him, or on some one whose name is associated with the disease under which the patient is suffering. In many cases the choice is determined by the patient, who prefers the man with the better-known name. Then the patient comes up to town, or the consultant is called down, as the case may be. At other times the patient goes to London to see a certain authority without the cognizance of his ordinary medical attendant, and then trouble is looming. The consultant takes a different view of the case, or sees it in a later phase, and uses different language about it from that used by the ordinary medical attendant, and then there is discord. Duplicity is innate in some persons, while others, again, delight in making mischief. So the consultant has often some difficulty in finding out the patient's ordinary doctor and communicating with him, so as to prevent any unpleasantness. Then some doctors are more "touchy" than others, and readily take offence, so that it is a delicate matter to interfere with their patients when they turn up in one's consulting-room. And then I fear—but now I know the editor of the *British Medical Journal* has his watchful eye upon me—there are men to be found who are so attractive that they soon convert the patient who comes to them for a casual consultation into a regular patient, and the patient's general attendant sees him or her no more. Of course much of this is due to the inclinations of the patients; but in some cases there must be something in the ways of the consultants, or otherwise some men are much maligned. Often the consultant is placed in a very delicate position by want of frankness in a patient. Some men think they have a vested interest in the patient who once consults them, and are sore if the patient sees any other professional man with or without their cognizance. But, it is clear, this is a false view of the case: a wine-merchant may as well complain that his customers sometimes buy wine elsewhere. In the old days, so well described by George Eliot, people were as much divided about their doctors as about their ministers, and to change their doctor was as serious an affair as to change their place of worship. Any change involved want of confidence, and so was damaging to the doctor, and offensive to his clients and upholders. Especially can this be seen in the north of England, in villages equidistant from several doctors in different directions. Certain families always go to one place, while others as certainly and surely go to the other place, and that, too, even when there is a change of doctors. But all that has died out, in London at least, and a lady will intrust herself to one medical man for anything about her head; for her lungs she consults another man; for her heart a third; for her liver she consults a fourth man; for her stomach a fifth; her womb, of course, is under the care of a sixth specialist; and, equally of course, to none of these would she go in case she had any trouble with her rectum. But there is no jealousy among these consultants, and if she wished to see them all together the only difficulty would be that of their all being able to be present at the same time. Or a person comes up to town, and sees several consultants on the same day or following days, and then takes the advice that is most agreeable, or with which the patient's own ideas are in unison. A specialist may see a proportion of cases which are not exactly in his line, but the bulk of his patients come with maladies in his department. Of course he may so impress the patient that he or she returns with some other malady; a surgeon may so skilfully treat a stricture that the patient returns with piles or a tumor. The specialist is paving the way for specially educated consultants. The old plan was largely to commence in more or less general practice, devoting attention, perhaps, to some subject more than others, and then in time, as skill increased and brought with it repute, the experienced individual was called in to give counsel in the practices of other men. But now a man prefers to select some particular department, and sedulously cultivates himself in that direction,—goes abroad to see the practice of celebrities in that branch, learns all he can, reads all the books on the subject, writes articles on it, or reads papers at societies, or joins in discussions on the papers read by others, translates a foreign work on the subject, or perhaps ventures to write one himself. By so doing he certainly does acquire a very great deal of knowledge on the subject, and if he is a man of sound good sense, and keeps himself well up with medicine generally and his own subject particularly, then he is a very useful member of society. This last class of men is decidedly on the increase at the present time, and the line of demarcation betwixt the general practitioner and the specialist-consultant is becoming more defined every year.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

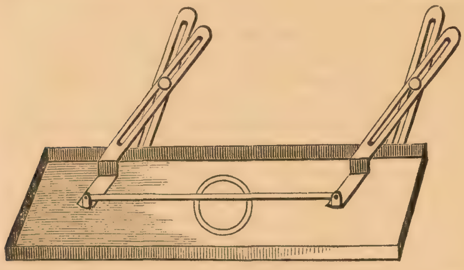
PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting of the Society, held at the hall of the College of Physicians, Philadelphia, November 26, 1879, Dr. Henry H. Smith, President, in the chair, Dr. Carl Seiler presented a New Immersion Microtome, and exhibited a number of large sections, thrown upon the screen by means of the lantern. Dr. Seiler's remarks were as follows:

IMMERSION MICROTOME.

The microtome which I exhibit here this evening is in principle the same as the one I showed last spring, and it differs only in use and in the fact that the sections can be cut under alcohol.

A large microtome well, two inches in diameter, is secured in the bottom of a cast-iron trough, six by eighteen inches, and an inch and a half deep, which can be fastened by screws to the work-table. At the back rim of the trough two arms of brass extend out some eight inches, having a slit cut in them, in which the pivot for the levers is secured by means of a set-screw. The levers carrying the knife are eleven inches long, and are bent in the shape of a **Z**, so that when one end is secured to the pivot the other end, carrying the clamp for holding the knife, dips into the trough. The advantages which this instrument has over others are, first, that by means of the slit in the arms carrying the pivots the latter can be moved so as to place the knife in any desired position without changing the length of the levers; second, that the full sweep of the knife in any position can be obtained; and, third, that large and thin sections can be made without fear of breaking them in cutting, as they float off in the alcohol, and can be floated on to a piece of glass for further preparation.



Dr. Chas. B. Nancrede approved very highly the ingenious improvement in section-cutters that had been presented by Dr. Seiler to this Society at a conversational meeting held last May. By means of these large sections mistakes are avoided, that, by taking only minute portions of a growth for microscopic examination, are almost inevitable. At a former meeting the speaker had mentioned some cases illustrative of the truth of this statement. A small portion of a tumor was presented to the Committee on Morbid Growths of the Philadelphia Pathological Society, and by them pronounced to consist simply of fibrous tissue. When a section was subsequently made through the whole growth, by Dr. Seiler's process, it was found that the growth was very largely epitheliomatous, but that the former section had only included the normal fibrous capsule of the growth. For this reason he would urge the more frequent study of large sections, as it gives a more faithful representation of the growth.

Dr. Seiler recalled the case spoken of by Dr. Nancrede, and mentioned another similar one, occurring recently, where a growth was microscopically examined by three different observers: one pronounced it an enchondroma; the second, a myeloid sarcoma; and the third found a mixed growth of spindle- and round-cells. After making a section of the entire tumor, he will be able to decide the relation that these elements bear to the entire growth, in order to state what are its prevailing characters. The case has recently died, and secondary sarcomatous deposits were found in the lungs, which favors the view of its primary character being a sarcoma.

Dr. O'Hara reported a case of supposed Idiopathic Pyæmia (see page 184).

DISCUSSION UPON SEPTICÆMIA OF OBSCURE ORIGIN.

Dr. Seiler said that in making a post-mortem examination it is difficult to decide whether or not the organs are absolutely healthy. When preparing a set of histological preparations a short time ago, he had found extreme difficulty in obtaining specimens of the normal heart and kidneys. He had examined a large number of human kidneys, and in the adult he had always found some microscopic evidence of fatty or amyloid degeneration, or of cirrhosis; he could not get what he considered a healthy condition of the organ, except in young infants, when the kidneys are first flushed with urine. In the adult domestic cat we know that the kidneys are always fatty. In examining the heart-tissue, he had often found fatty or granular cells in the muscular fibrillæ, even when they retain their striæ. Minute free oil-globules were found in the nuclei of the cells, while the cells retained their shape. He had examined at least a hundred cases in which death had occurred from accident or from disease of other organs, but the heart and kidneys were not, in his estimation, sufficiently healthy to be used for histological studies.

The Chairman, Dr. Henry H. Smith, suggested the following points for discussion in connection with the case presented by Dr. O'Hara: first, What is pyæmia? and, secondly, Was this a case of pyæmia?

Professor William Pepper expressed regret that the autopsy could not be secured, as this would have settled conclusively the nature of the case reported by Dr. O'Hara. There seemed to be little doubt, however, that some septic process had been present, such as would legitimately bring it within the group of diseases to which the term pyæmia is applied at present.

The cases of such character arising independently of any external traumatic causes are so numerous and so important that he thought the Society was indebted to Dr. O'Hara for having brought the subject before their notice. As illustrating some of the different types of medical pyæmia, he would briefly allude to the following cases. A healthy man, a keeper of a beer-saloon, had probably received some slight blow or strain about the epigastrium. After some vague and ill-defined symptoms the case assumed the character of a fully-developed pyæmia, ran a rather rapid course (death occurring in ten days), and at the autopsy the lower extremity of the spleen was occupied by a large abscess, the fetid contents of which apparently had resulted from the disintegration of an area whose vessels had been plugged up by thrombi, tending to putrefactive decomposition, instead of to contraction and organization. Allusion had been made by the speaker to the pyæmia attending ulcerative endocarditis, but the following case would illustrate a different connection between cardiac disease and pyæmia. A patient with severe mitral disease gradually developed symptoms of chronic pyæmia. At the autopsy, emboli were found in very many parts of the body; some of which, as those in the mesenteric arteries, had led to aneurismal dilatation of the vessels, while others, particularly those in the spleen and kidney, had undergone putrefactive degeneration, and the septicæmia had resulted from reabsorption of these liquid products. Again, pyæmia and septicæmia undoubtedly occur frequently from the absorption of infectious material through the mucous membranes, or possibly the skin. He repeatedly had had occasion to observe cases where exposure to emanations from decomposing organic matter had been followed, not by typhoid fever, but by an illness undoubtedly pyæmic in nature.

Some years ago he saw a case, in consultation with the late Dr. George Pepper, where a privy-cleaner died after symptoms of acute septicæmia. Multiple abscesses were found in the liver, with plugging of the small vessels. There had been no injury, no external centre of suppuration, no attack of dysentery: the most probable explanation seemed to be that the disease had resulted from the absorption of septic matter from the alimentary canal.

These brief remarks merely served to indicate his belief in the considerable frequency of septic disease of a medical origin, as contrasted with those having a surgical or a puerperal origin, and to indicate a few of the various ways by which they may arise.

Dr. Charles K. Mills said that multiple embolism is of more frequent occurrence than is supposed. In the case reported the condition was, without doubt, that of pyæmia. In similar cases cardiac thrombosis probably sometimes takes place, or a thrombus forms in one of the larger vessels, and this subsequently breaking up, and being distributed by the blood-current, multiple embolism, with its various symptoms, occurs. He had recently sent for publication to a foreign medical journal, in connection with other cases, an example of multiple cerebral embolism, in which seven areas of softening, the result of embolisms, were found in the cortical structure of the brain, and also a large foyer in one of the basal ganglia. Some of the closed vessels leading to these necrotic areas were discovered. With the assistance of Dr. Shakespeare he had examined all the vessels removed from the brain, both macroscopically and microscopically, and had detected a number of points of complete occlusion, without corresponding foci of softening. Collateral circulation appears sometimes to prevent the necrobiotic process. In the case referred to, fatty degeneration of the heart and granular atrophied kidneys were present. Possibly the delirium in cases like Dr. O'Hara's, and also in his own case, might be accounted for by capillary occlusions, on the view advanced by Bastian, that this symptom is often due to plugging of the fine capillaries of the cortex of the brain.

Dr. Charles B. Nancrede suggested that the abrasion upon the ankle referred to by Dr. O'Hara might have produced pyæmia, by causing a phlebitis of the smaller which extended into the larger veins. Cases of this kind are mentioned in Holmes's "System of Surgery," he believed. In one of the London medical societies, a few years ago, cases were reported by Prescott Hewitt and others, showing that so slight a cause as an irritated pimple may produce fatal pyæmia. It is not necessary, therefore, to confine our attention to the large vessels or important wounds, etc., to discover the cause in a given case of blood-poisoning.

Dr. George Hamilton regretted the absence of an autopsy in the case reported, as the cause of death then might have been better understood. Persons in apparent health often have unsuspected organic disease. Butchers find in some of the finest-looking animals they kill ossification of the heart, abscesses in the lungs and liver; and it is believed that this is even more common in the West than it is here. He did not think it at all surprising that human beings might have similar disease without being aware of it. Several days before the death of Dr. George McClellan he had met him apparently in full health; three days later he died, and it was found that he had ulcers in the colon at the sigmoid flexure, with perforation of the bowel, which must have required a much longer time for its development than his short illness would give. Dr. Joseph Parrish was very healthy and active until shortly before his death, when an autopsy revealed that he had extensive disease of one of his kidneys, that had not been suspected during life or in his last illness.

Dr. J. L. Ludlow reported a case of latent cancer of the liver. Symptoms of indigestion appeared and grew steadily worse; death occurred at the end of six weeks, when long-standing cancer of the liver was detected.

Dr. W. R. D. Blackwood said that every physician of experience has met with cases presenting symptoms of blood-poisoning, which are very difficult to account for except on the supposition of the inhalation and absorption of septic matter through the lungs. He reported a case in point. A butcher had been asked to remove the hide of a horse which had died from some ordinary malady. The man delayed for several days, and until decomposition had set in. He flayed the horse, but in a few hours violent symptoms of blood-poisoning appeared, and in the course of two days the man died. It was an undoubted case of pyæmia, without a single scratch upon the surface. Dr. B. was satisfied that the whole trouble originated from the inhalation of odors from that dead horse.

Personal susceptibility and peculiar conditions of the body have much to do with the development of blood-poisoning. He had lived in a very malarial region in the South, but had never contracted chills, but twice since his return he has had chills. On two occasions he delivered a woman of a putrid fœtus with adherent placenta, and each time the labor was protracted; as a result he had three or four marked chills, and was very seriously ill, with decided septic symptoms.

Dr. Nancrede observed that the fact of there being no breakage of the skin would not invalidate the view that absorption nevertheless took place by the skin. The case of Sir James Paget illustrates this point. In making a post-mortem in a case of purulent effusion in the chest in a case of pyæmia, although his hands were protected by antiseptic ointment, and there was not the slightest scratch upon them, he subsequently had inflammation of the lymphatics of one arm, followed by blood-poisoning, from which he nearly lost his life.

Dr. Henry H. Smith reported a similar occurrence as happening to himself while in Paris in 1839. While operating on a fresh subject nearly every day, and spending considerable time in the dissecting-rooms, he absorbed some noxious matter without having any wound of the hand. From this he had angeioleucitis and erysipelas, barely escaping with his life. It was a case of undoubted absorption through the cuticle.

Ths lungs without doubt can absorb not only gaseous but also solid material, which will find its way into the blood-vessels. Particles of charcoal are often found in the bronchial glands of the charbonnières of Paris, who handle constantly this substance; the deposit of carbon in the lungs and neighboring glands that infiltrates the intercellular tissue being constantly noted in the Parisian post-mortems of these workmen.

Referring to Dr. McClellan, as alluded to by Dr. Hamilton, the speaker saw him for the last time at an operation performed by Dr. Wm. E. Horner, the case being the removal of a breast, under the anæsthesia of ether, about 1847. Dr. McClellan was greatly delighted with the results of the operation and the unconsciousness of suffering by the patient, and was quite vivacious in his expressions of satisfaction at the result. He certainly presented no evidence then of disease, though within twelve hours afterwards he was taken sick with an illness that speedily terminated his life. After death the chronic condition already spoken of was discovered.

Dr. O'Hara, in conclusion, said that the gravity with which the symptoms set in during apparent health indicated blood-poisoning, which, in his opinion, might be due to gangrenous thrombosis. There was no evidence of ulcerative endocarditis. The abrasion referred to, on the ankle, was carefully examined by several physicians, and we found only a thickening of the skin, without any sign of inflammation or abscess,

Dr. Wm. Pepper read the notes of a case of mild typhus or typho-typhus fever (see page 189).

HYDROBROMIC ETHER, OR BROMIDE OF ETHYL.

Dr. Laurence Turnbull said that in the summer of 1877 he had introduced the use of hydrobromic ether to the profession. He first experimented upon himself as to its safety and the advantages of it as an anæsthetic, and since that time he had employed a large quantity in numerous operations, which are recorded in his work. Since the publication of the second edition he has added many other cases, in all about one hundred. The doctor brought the use of this ether before the British Medical Association at Cork, and recommended its use as a sedative in certain hysterical and nervous forms of deafness and noises in the ears, by introducing the vapor by the middle ear, also administering it internally. He had read a paper before the Pharmaceutical Section at the International Congress at Amsterdam, and there proved the following facts in reference to it:

First. That it was safe as an anæsthetic, being rapid in its action, and also being eliminated from the body quickly.

Second. It was much more agreeable in its odor and taste than the ordinary ether, and therefore can be used in a private office or lady's chamber.

Third. The cost is now about thirty cents per ounce, and almost any ordinary case can be brought under its anæsthetic influence.

Fourth. Vomiting is very rare, unless the stomach has been recently filled to repletion.

Fifth. Recently, in the Pennsylvania Hospital, Dr. R. J. Levis informed him that he had employed the hydrobromic ether with perfect success in numerous protracted operations. Also, he had a letter from Chicago that Dr. Byford and one other surgeon of that city have used the ether with entire success in protracted operations.

Sixth. That the pulse is increased in force and volume, and respiration very slightly increased over the normal; the pupil did not seem to be influenced except in a slight degree.

Seventh. In some cases there remains an odor like mustard about the patient, where the ether has been used in a protracted operation.

A resolution was adopted tendering a vote of thanks to the authors of the papers read.

REVIEWS AND BOOK NOTICES.

A Dictionary of German Terms used in Medicine. By Geo. R. Cutter, M.D. New York, G. P. Putnam's Sons.

Every medical man who has had to study German, isolated from German physicians, must have shared our vexation and that of the author of the dictionary before us in being often baffled in the attempt to fathom some polysyllabic medical expression. At one time in our earlier steeple-chases across the rough grounds of German lore, *decubitus* seemed the barrier over which our mental Pegasus would not spring or soar; and many a time a half-hour has been spent in vain in searching through dictionaries and in attempting to work out by the context some unknown term. One day, in delight, after reading some review, we sent a missive, post-haste, to Germany for Tolhausen's "Technologische Wörterbuch," concerning which three-volumed book we desire to bear impartial witness as to its full and complete worthlessness to the medical man.

The task set by Dr. Cutter is one much needed to be done, *i.e.*, to be well done; and the vital question is as to how Dr. Cutter has performed it. Practical use through some months can alone enable one to determine finally the real value of a dictionary like the present: so that we do not feel able just yet to speak authoritatively. But on looking over the book we have detected no mistakes,—a negative virtue,—and on looking out a dozen or so unusual terms have failed to find only two or three.

We trust that Dr. Cutter will meet with such encouragement from the profession as will speedily enable him in a second edition to render still more perfect that which seems to us very satisfactory for a first edition. We earnestly recommend every medical student of the German tongue—and the young physician who does not study German must remain in the rear of his generation—to aid both himself in his studies, and Dr. Cutter in his efforts to provide aids for study, by buying the volume.

HEALTH PRIMERS. THE SKIN AND ITS TROUBLES. New York, D. Appleton & Co., 1879. 12mo, pp. 94.

This little book is one of a series similar to the well-known collection edited by Dr. Keen. Although bearing an American imprint, it is of English origin, and is English in the point of view from which it is written. The author, who is anonymous, but is evidently a dermatologist, writes in a pleasant, easy style, and gives much useful advice, not only on the care of the skin proper, but also of its appendages, particularly the hair. He appears to be rather a fanatic on the use of the bath, and attributes the occurrence of many disorders of the skin to want of cleanliness,—an old theory, but one which is not, in this country at least, supported by practical experience.

PHOTOGRAPHIC ILLUSTRATIONS OF SKIN DISEASES. By GEORGE HENRY FOX, A.M., M.D. Parts V. and VI.

Dr. Fox's Atlas continues to keep up to the standard initiated by the earlier numbers. Eight pictures of eczema in its various forms are given, together with one illustration of varicose ulcer and one of psoriasis annulata. The pictures of infantile eczema are very good, as is that of eczema barbæ. The photographs of eczema papulosum and of psoriasis seem to have been taken at too great a distance; but with these exceptions the representations are as good as photographs can be.

THEORY AND PRACTICE OF MEDICINE. By FERD. T. ROBERTS, M.D. Third American from the Fourth London Edition. Philadelphia, Lindsay & Blakiston, 1880.

We announce with pleasure a new edition of this excellent manual, the original edition of which we reviewed some time since in our columns. The changes in the present edition are only such as were required to keep the book abreast of the advancing science.

GLEANINGS FROM EXCHANGES.

SUCCESSFUL OPERATION FOR DROPSY OF THE GALL-BLADDER.—At a recent meeting of the Royal Medical and Chirurgical Society (*Lancet*, vol. ii., 1879, p. 730) a paper was read on a case of Cholecystotomy performed for Dropsy of the Gall-Bladder, due to the Impaction of a Gall-Stone, by Mr. Lawson Tait. The author referred to the success attending ovariotomy as leading to the adoption of abdominal section for other pelvic and abdominal tumors likely to affect seriously the life of the patient, unless of a cancerous nature. Dr. Hanfield Jones had the merit of first suggesting the extension of it, particularly to cases of threatened death from gall-stone impaction. Dr. Marion Sims was the first to follow out the plan, but unsuccessfully, and the present case was the first successful one. The patient had been married eighteen years, had borne six children, and menstruation was normal and health good till the summer of 1878. At that time she had spasmodic pains in the right side, aggravated by walking and lifting slight weights. A swelling, noticed in September, slowly increased, and during last winter pain became more intense, and she presented a cachectic appearance, suffering from incessant headache, sickness, and obstinate constipation. The seat of pain was over the right kidney, where there was a heart-shaped tumor, firm and elastic, without fluctuation, tender to the touch, and movable towards each side. The urine gave only negative results. At a consultation no decided diagnosis was attempted, and the opening of the abdomen was agreed upon, which was performed on the 23d of August, in the middle line, to the extent of four inches. The tumor was found to be a distended gall-bladder, containing a white, starchy-looking fluid, and two large gall-stones, one lying loose, and the other impacted in the entrance of the duct, and adherent to the mucous surface. The latter was removed after a tedious and very difficult operation (fully described in the paper). The stone and fragments weighed 6.11 grammes. The wound in the gall-bladder was stitched to the upper end of the wound in the abdominal walls by continuous sutures, leaving the aperture into the bladder quite open, and closing the rest of the abdominal opening in the usual way. The operation was performed antiseptically under ether. The patient rallied completely in a few hours, and the dressings of the wound were found stained with healthy bile. The flow of bile from the wound continued till September 3. The wound was completely healed on September 9, when the patient began to take solid food, up to that time the diet having been restricted to milk and beef-tea. On the 30th she went home quite restored to health.

Fatty Degeneration of the Heart due to the Anæmia of Typhoid.—At a recent meeting of the London Pathological Society (*Lancet*, vol. ii., 1879, p. 764) Dr. Goodheart exhibited a specimen of fatty degeneration of the heart from a boy six years old, admitted under Dr. Pavy, at Guy's Hospital, on the seventeenth day of an attack of typhoid fever. The temperature reached 105°. On the nineteenth day there was severe hemorrhage, which recurred on the twenty-first, together with epistaxis, and death was rather sudden. The heart showed marked fatty degeneration of its muscular fibres, and there was extensive ulceration of the intestines, especially of the colon, whence the hemorrhage had taken place. The interest of the case lay in the connection between the anæmia induced by the hemorrhage and the occurrence of fatty degeneration of the heart. Some cases of such degeneration in fevers could be attributed to the febrile process itself, but here it seemed to be in direct relation to the loss of blood. He had seen four other cases of severe hemorrhage lead to this cardiac condition. The change was in the form of minute granules—not actual fat-globules—entirely replacing the normal striation.

Digitalis hypodermically in Flagging Heart.—In a recent clinical lecture Professor Da Costa called attention to the use of digitalis hypodermically for the purpose of sustaining a flagging heart. Two drops of the fluid extract are equivalent in strength to fifteen minims of the tincture. This amount (gtt. ij), well diluted with water, is what he generally uses, and he has always found that it answers all the purposes of hypodermic medication excellently. This dose can, of course, be repeated as often as necessary.

Treatment of Cardiac Dyspnœa.—Professor Sée (*Concours Méd.*; from *Lond. Med. Record*, 1879) has found the iodide of potassium work well in all cases of continuous cardiac dyspnœa, particularly when this is connected with some structural lesion. It is equally useful in valvular lesions. No evil results can occur from its use, even if a mistake is made and the affection is asthmatic. The iodine liquefies the bronchial secretion. The dose is twenty grains a day, gradually increased to two or two and a half scruples. A good formula is—

℞ Potas. iod., ʒvss;
Syr. aurantii cort., f℥iv.—M.

Sig.—Two to four teaspoonfuls a day in a tumbler of water.

Patients suffering from heart-disease are more tolerant of iodide of potassium than other patients. The contra-indications to its use are—1, tendency to hemorrhage; 2, loss of flesh; 3, loss of strength; 4, loss of appetite. Opium may be added to prevent iodism. Another useful combination is digitalis with iodine, as one has a soothing influence on the dyspnœa by acting on the lungs, and the other increases the action of the heart and modifies the arterial tension. The following formula will be found to answer well:

℞ Potas. iod., ʒss;
Tinct. digitalis, f℥ss;
Syr. acaciæ, f℥iv.—M.

Sig.—Dessertspoonful four times a day.

When digitalis is unsuitable, chloral may be substituted.

Use of the Lever in Controlling Hemorrhage in Hip-Joint Amputation.—Mr. Richard Davy, who a few years ago drew attention to the *per-rectum* compression of the aorta and iliac arteries for the temporary arrest of hemorrhage during the performance of operations, and practically demonstrated the efficacy of the method in amputation of the hip-joint, now returns to the subject (*British Med. Jour.*, vol. ii., 1879, p. 685). Mr. Newman, of Glasgow, has recently described a special knife and india-rubber band for compressing the flaps during amputation at the hip-joint. Mr. Davy thinks that this is applied too low down, as Pancoast's tourniquet applied over the aorta is too high up. He thinks that in future surgeons will compress the common iliac artery per rectum. The lever used by Mr. Davy is figured in his paper. It is turned out of ebony, and varies in length from eight to twenty-two inches. Its surface is very smooth and polished, and its ends are rounded off much like the finger-tips. The maximum transverse diameter is five-eighths of an inch; the minimum, three-eighths of an inch. The rectal end is graduated to an inch scale, so that the surgeon who applies the lever can at once learn whereabouts may be the end of the rod. The points of advantage claimed by Mr. Davy are: (1) most perfect control of the required artery; (2) minimum amount of disturbance of the circulatory system; (3) independence of the respiratory movements; (4) its general and easy applicability, strictured rectum being the only obstacle; (5) it is easy for the assistant to maintain pressure, and at the same time keep out of the way of the operator; (6) safety of application; (7) cheapness, simplicity, and success. Mr. Davy gives the record of ten cases in which the lever was used; the total amount of blood lost during the ten operations having been under eighteen ounces.

Antiseptics in Ozæna.—Mr. Lennox Browne (*British Med. Jour.*, vol. ii., 1879, p. 691) uses the following solution, both in the nasal douche and as a gargle:

℞ Boracis, ʒiii;
Acid. salicylic., ʒii;
Glycerinæ, f℥iiss;
Aquæ, ad f℥i.—M.

One or two drachms of this mixture to the half-pint of water at 95° Fahr. acts quite sufficiently. It has the advantage over and above its antiseptic qualities of being not only neither irritating nor obnoxious in taste, but, on the contrary, of being even emollient and of agreeable flavor. This formula is of especial value in the cases of ulceration, which, when occurring in the nostrils, is now considered to be always due to syphilis. But when the ozæna arises from catarrhal inspissation, retention, and consequent putrefaction of the normal secretion, a solution of chloride of ammonium and borax, about ten grains of each to the half-pint of warm water, acts admirably in clearing away the offensive accumulation and in restoring the mucous membrane to healthy secretion.

A Tasteless Saline Purgative.—M. Yvon finds that the disagreeable taste of sulphate of magnesia may be completely concealed by the addition of a few drops of the essence of mint, provided that the quantity of the vehicle be small. He advises that ʒvi of the sulphate should be dissolved in about ℥i of water, two or three drops of the essence of mint being then added; or the flavoring agent may be added to the salt, and the patient directed to dissolve the whole in as small a quantity of water as possible.—*Paris Médical*, 14th August, 1879; *Lyon Médical*, 31st August, 1879.

A Case of Pleuro-Pneumonia treated with Ergot of Rye—Rapid Recovery.—Dr. Alexander Boggs (*Brit. Med. Jour.*, vol. ii., 1879, p. 772) was called to see a woman suffering with pneumonia of the right lung, with pleurisy. Effusion having taken place at the end of a few days, Bonjean's liquid extract of ergot was prescribed with liquor ammoniæ acetatis. A consultation held at this time determined thoracentesis as imminent, but within three days the fluid had been entirely absorbed and this operation rendered unnecessary. The patient made a good recovery.

Nitrite of Amyl in Uterine Hemorrhage.—Mr. Kerr adds his testimony to the usefulness of this remedy (*British Med. Jour.*, vol. ii., 1879, p. 691). He considers the *rationale* of its effect to be rapid dilatation of the cervical vessels. Attending a rather severe case of post-partum hemorrhage, Dr. Kerr administered five minims of the nitrite by means of an inhaler, with immediate and happy results. The hemorrhage ceased at once and permanently, and the patient was restored from a state of collapse.

Treatment of Mucous Polypus of the Nose.—Reginald Harrison (*British Med. Jour.*) punctures these growths from the anterior nares by means of an ordinary acupuncture needle, thus allowing the fluid of which they largely consist to drain away. To prevent the growths from refilling, the patient is directed to inject a solution of carbolic acid in glycerin. When the polypi are accessible, this plan is preferable to avulsion.

MISCELLANY.

Conflagration from the Use of the Thermo-Cautery during Anæsthesia from Ether.—The *British Medical Journal* (November 22, 1879), from a French source, gives an account of an operation under ether for arthritis of the knee-joint, in which the actual cautery was employed. Five ounces of ether had been employed. The window had been opened, the room was large, and the ether-bag was to a certain extent separated from the thermo-cautery. Suddenly the room was in flames, and the bed was enveloped in them. The ether-bag was thrown down on the floor and the patient quickly removed. She was only slightly burned, but the physician who was administering the ether was severely injured. Similar accidents have been noticed elsewhere. Ignition does not occur when the wire is only heated to redness: a white heat is necessary. Some years ago Dr. Dolbeau practised local anæsthesia with ether spray on the hæmorrhoids of a patient about to be operated upon. The apparatus having been removed, the red-hot iron was applied, but the ether vapor caught fire, and produced a general conflagration and extensive burning of the surrounding parts without affecting the hæmorrhoids.

Prize for Essay on Diphtheria.—The Empress of Germany has offered a prize of two thousand marks (five hundred dollars) for the best essay on diphtheria. The conditions are that the writer is to bring forward important *new* facts as to the essential nature (*das Wesen*) of the disease, especially with regard to the infectious matter which propagates it, its dissemination, and the means for arresting its progress. The essays may be written in German, English, or French, and must be sent to Professor v. Langenbeck, Berlin, N. W., 3 Roonstrasse, on or before December 15, 1880. The committee which will award the prize consists of Professors

Klebs, of Prague; Liebreich and Virchow, of Berlin; Von Nageli and Oertel, of Munich; and Thiersch, of Leipsic. Each essay is to have a motto corresponding to a similar motto on a sealed envelope containing the author's name.

TO WHOM DOES THE FŒTUS BELONG?—Our Parisian contemporary, *Le Praticien*, of November 24, records an accident provocative of considerable commotion among the unmarried ladies present. The occasion was a ball given in honor of a wedding at the *mairie* of a small French town. In the middle of the ball one of the dancers stooped down and pulled up a strange mass, which, on examination by a *sage-femme* who was present, was declared to be a fœtus. There was great emotion, and the question arose, whom to suspect, and to whom did it belong? There were a number of young ladies, unmarried, and it would be difficult to make a special examination of them all. The difficulty was, however, eventually solved by a newly-married lady who was present confessing that she was the late proprietress of this veritable apple of discord, and, according to *Le Praticien*, it had passed from her without any pain or warning of the occurrence.—*Medical Press.*

GERMAN MEDICAL STUDENTS.—The number of medical students in the German universities during the summer semester of 1879: Berlin, 609, of which number 197 are military students or cadets; Munich, 503; Würzburg, 458; Dorpat, 436; Leipsic, 389; Greifswald, 244; Breslau, 181; Freiburg, 174; Tübingen, 174; Zurich, 168; Strasburg, 166; Bonn, 144; Halle, 143; Göttingen, 141; Bern, 138; Grätz, 137; Heidelberg, 136; Marburg, 126; Königsberg, 125; Erlangen, 121; Jena, 100; Giessen, 98; Kiel, 97; Basel, 77; Rostock, 37. Vienna has during this same semester 697 regular students, besides from 100 to 150 irregular students, who remain one or two semesters and are not matriculated. These consist of strangers, and three-fourths of them are Americans.—*Pacific Medical Journal.*

INFANT INSANITY.—Paulmier, in 1000 cases of insanity, had ten children; John Turnam, out of 21,333 cases, had eight children under ten years and 1161 between ten and twenty years.—*Amer. Jour. of Obstetrics.*

MARTELLEMENT.—The tribunals of the Seine-Inférieure have recently been occupied with a curious case relating to the voluntary mutilation which young men practise upon themselves in order to escape the conscription. The operation is termed *martellement*, and consists in producing the deformity of one or more toes by causing a contraction of the flexors, the individual so operated upon walking on the ends of the toes instead of supporting himself on his plantar surface. As the result of an inquiry that has been instituted, it appears that *martellement* has been practised in the locality for more than forty years, and that since 1839 all the conscripts, with the exception of three, have gained exemption. No information has been obtainable as to the mode in which the operation is performed. The young man who was accused, formerly a good walker, has of late seldom left the house, and for some months has ceased to appear at the village balls; and on examination it was found that he had recently undergone *martellement.—Rev. Méd.*, October 11.

DUPLICATING PRESCRIPTIONS.—A recent medical act in Wisconsin reads as follows: "If any physician practising medicine in this State shall write or cause to be printed on any prescription the words 'No duplicate,' any vender of medicines who shall duplicate such prescription without the physician's consent shall be subject to a fine of ten dollars for each offence."

The *Louisville Medical News* comments as follows: "We wish this law prevailed in Louisville. Here one prescription, gotten on credit, and often never paid for, is used by an individual or a family indefinitely, and, besides, is often loaned to friends and relatives. It is pleasant to know, however, that the modest and moderate-charging druggist gets his little one hundred per cent. every time the ℞ is filled."—*N. Y. Med. Record.*

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OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 28, 1879, *TO JANUARY* 10, 1880.

VOLLUM, E. P., MAJOR AND SURGEON.—Relieved from special duty in connection with inspection of veterinary supplies, and to resume his station at Jefferson Barracks, Mo. S. O. 291, A. G. O., December 29, 1879.

HEGER, A., MAJOR AND SURGEON.—To proceed, on or before February 1, 1880, to San Antonio, Texas, and report in person to the Commanding General, Department of Texas, for assignment to duty. S. O. 3, c. s., A. G. O.

CLEMENTS, B. A., MAJOR AND SURGEON.—Having relinquished his leave of absence, assigned to duty at Willet's Point, N.Y., relieving Surgeon Anthony Heger. S. O. 3, A. G. O., January 6, 1880.

FORWOOD, WM. H., MAJOR AND SURGEON.—Assigned to duty as Post-Surgeon, Fort Omaha, Neb., relieving Assistant-Surgeon R. Barnett. S. O. 121, Department of the Platte, December 29, 1879.

WHITE, R. H., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, to proceed to New York City, and report by letter, upon arrival, to the Surgeon-General. S. O. 293, A. G. O., December 29, 1879.

TAYLOR, B. D., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report in person to Commanding General, Department of the East, for assignment to duty. S. O. 292, A. G. O., December 27, 1879.

HALL, WILLIAM R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Columbia, and, upon expiration of his present leave of absence, to proceed to New York City, reporting his arrival, by letter, to the Surgeon-General. S. O. 293, A. G. O., December 29, 1879.

APPEL, D. M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of the Missouri, and, upon expiration of his present leave of absence, to proceed to New York City, and report by letter, upon arrival, to the Surgeon-General. S. O. 293, c. s., A. G. O.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JANUARY 31, 1880.

ORIGINAL COMMUNICATIONS.

RUBBER BANDAGE.

BY HENRY A. MARTIN, M.D.

IT was not till a few days since that I encountered and read the paper of Dr. C. H. Thomas, in the issue of the *Times* for December 6, on the use of the pure-rubber bandage in the treatment of ulcers of the leg; I did so with great pleasure. In the large amount of writing which has already been published on the subject since I first publicly announced the method to the profession in June, 1877, nothing, it seems to me, evinces a more thorough appreciation of the value of the innovation or of the principles on which it accomplishes very desirable ends. I commend it most cordially to all readers. Dr. Thomas's method of applying a piece of muslin or linen between the sore and the bandage, at any rate when the former is irritable, I approve, although it is opposed to directions given in papers which I have published. In my wish to simplify the method, to avoid the redundant superfluity which complicates many modern surgical processes, I think that I have been too sweeping in ordering no application whatever *in any case* but the bandage *pur et simple.* I find, however, this simple addition very seldom necessary or even desirable. In a few cases I have laid immediately over the sore a piece of thin pure-rubber sheeting extending about one inch beyond its edge in all directions, and in a few more I have used a similar piece of moist vellum, which was, in ancient surgery, a favorite application under the bandage or laced stocking to these ulcers of the leg.* So far as my, as yet, very limited experience on this point goes, I think I prefer the latter to the pure rubber, *but always under the pure-rubber bandage.* There is one part of the record of the very interesting discussion on Dr. Thomas's paper in regard to which I wish to make a remark or two. I quote a portion of Dr. Thomas's remarks: “As regards the question of priority in its” (the bandage's) “use, he believed the credit is due to Dr. Martin, of Boston, *although he does not claim it,* but for the last twenty-five years he has had it in constant use, and has finally brought it to the notice of the profession.” Dr. Thomas writes, in a letter received by myself to-day, that the record is erroneous so far as the words in italics are concerned.

I most certainly *do,* clearly, indubitably, and fully, claim priority in the use of the pure-rubber bandage, not only in the treatment of ulcers of the leg, but in many other classes of disease and lesion, fully indicated in my original paper addressed to the American Medical Association in June, 1877. I have not had leisure as yet to describe the application of my bandage in the cases referred to as fully as I have done in regard to ulcers of the leg, but it is my intention to develop fully the methods of treatment in all the very numerous applications thereof made by myself, in papers already in course of preparation. At the next meeting of the Association I propose to offer one of these, “On the use of the pure-rubber bandage in certain diseases and injuries of the joints,” a subject treated, to a certain extent, in papers of mine already published, but not as yet in a way at all commensurate with its great importance and value, as demonstrated by quite large and fully adequate practical experience and observation. This paper will be followed, as soon as may be, by others on its applicability to (1) certain cutaneous affections; (2) phlebitis in all its forms, stages, and sequelæ affecting the extremities; (3) sciatica and other forms of neuralgia of the limbs; (4) all forms of œdema and anasarca of the extremities, and in certain other parts of the body; (5) in certain conditions of congestion and inflammation, and its complications and sequelæ; (6) in certain forms of fracture of the bones, and especially in some conditions frequently following such lesions, the result of effusion of various sorts about their seat; (7) in cases of contusion and ecchymosis and their consequences; (8) in certain forms of abscess and their consequences, as sinuses, induration, contraction, and other damage to muscles, etc.; (9) in many cases of disease of bursæ mucosæ, the thecæ of tendons, etc., and their consequences, etc. This is a long list, but it by no means exhausts that of the cases in which an ample experience of more than twenty-five years has, *in actual practice*, demonstrated the great value of the pure-rubber bandage in surgery. This brings me back to my "*moutons*," the question of priority. Dr. Thomas's remarks were probably called forth by a previous statement of Dr. John B. Roberts, to the effect that Dr. William B. Hopkins had "discovered its" (the bandage's) "value independently of the researches of Dr. Martin, and before the article of Dr. Martin was published." I am sorry that Dr. Roberts thought it worth while to make this claim. At what time Dr. Hopkins made the discovery is not mentioned, but probably in 1876, as that is the date mentioned by Dr. Roberts of Dr. Hopkins's use of the bandage in cases of "leg ulcers."

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* Several Chirurgical Treatises. By Richard Wiseman, Sergeant-Chirurgeon. The Second Edition. Folio. London, 1686, p. 201. To whoever may be so fortunate as to obtain this admirable old surgical work, I would commend a careful study of the whole section entitled “A Treatise of Ulcers,” page 163 to page 207 inclusive, before they make, or, at all events, *publish,* any great *original* discoveries and inventions in this part of surgery.

I do not wish to trespass unduly on your space, and will, as briefly as possible, say that this is the very first claim of the sort set up in the more than two and a half years since my announcement at Chicago.* I am much gratified and somewhat surprised at this, for one of the very strongest reasons, in my mind, for not having much sooner publicly announced my method was a peculiar dread of the always inevitable claimants for priority in *every* new discovery, and the odious, tedious discussions into which disproval of such claims would surely lead me. I cannot blame myself, however, for withholding from the profession, for so many years, a method the value of which I had fully proved. *I did not keep it a secret.* During nearly all the more than twenty-five years since I first employed bandages of pure rubber in surgery, and in some medical cases, I have never omitted an opportunity of communicating what I had learned on the subject to all who would listen. In this way I must have spoken, as fully as knowledge at the time enabled me, to hundreds of physicians. I spoke of the manifold virtues of pure-rubber bands and bandages at medical societies and clubs, wherever two or three doctors were gathered together; yea, often, when I had but a single listener, he could seldom escape. I think most of these paid little regard to what I said, and never made any practical use of the information I gave so freely; but there were exceptions. To many such I furnished bandages from my private stock, and they employed them successfully. One distinguished surgeon of New Hampshire† many years ago and since, till the "Martin bandage" became an article of commerce, requested me, when I was having bandages manufactured, to add considerably to my order, for bandages to be used in his own practice. Two of the *gentlemen* to whom, more than fifteen years ago, I thus frankly and fully told all I then knew, and to whom I furnished bandages, I have lately unpleasantly heard of, as conveying to their sympathizing hearers a claim to priority, on the ground of having "so many years ago employed the pure-rubber bandages in their practice." These worthies have been *very* private in their talk, even confidential, and I have neither apprehension nor hope that they will ventilate their griefs in the garish publicity of print. One of them, an Irishman, has *probably* read, as he most *certainly* is a disciple, of that distinguished compatriot who complained so bitterly that "that confounded fellow Shakspeare stole all his [the Irish dramatist's] ideas from him." Since 1869, having then fully satisfied myself of the great value of the pure-rubber bandage, by long and carefully-noted experience, I was very anxious to publish the method. I did not, however, think it best to rush into print in our local and peculiarly provincial medical journal, in whose pages, with wings and tail sadly clipped by the relentless shears of "editorial privilege," my poor little fledgling would have feebly piped his unnoted song and been forgotten, to be picked up again, perhaps, by and by, and fondly nurtured by the blatant Boanerges who has so kindly gathered up so many similar untimely surgical births and nursed them into the great ORIGINAL inventions and theories which have *so justly* or, at any rate, so *inevitably* placed him in the front rank of the American profession, and made him the honored, fêted guest of the surgical profession of the world. In that year (1869) I first attended a meeting of the American Medical Association, and took a bandage with me, hoping for an opportunity to speak about it. In 1873 I took one to England with the same hope. In 1876, at Philadelphia, I hoped also for an opportunity to speak about the bandage, but it was not till 1877, by the courtesy of Dr. F. H. Hamilton, chairman of the Section of Surgery, that the opportunity I had so long vainly sought, to address some large representative assemblage of the whole profession, was offered and improved. On all these and many other occasions, although I made no public and general announcement, I availed myself of every opportunity to speak of the bandage to all who would "give me ear;" *and this was particularly the case at Philadelphia in 1876* [the year, by a remarkable *coincidence*, in which Dr. Hopkins "discovered the value of the pure-rubber bandage independently of the researches of Dr. Martin"]. I assiduously attended that entire session of the Association, despite the marvellous attractions of the Centennial Exhibition, was introduced to a great many physicians of Philadelphia and elsewhere, and, to all to whom I could easily and naturally do so, spoke of my "hobby," the pure-rubber bandage, and its various applications.

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* In making this assertion I am not ignorant or unmindful of the following note to a paper on the "Treatment of Ulcers, etc., by Martin's Pure-Rubber Bandage," by F. H. Stuart, M.D., published in the Proceedings of the Medical Society of Kings (N.Y.) for November, 1879. "In Liston's Elements of Surgery, edited by Dr. S. D. Gross, and published in Philadelphia in 1842, p. 133, referring to varicose veins, occur these words: 'the india-rubber bandage, *worn over the stocking or drawers*, answers as well as any other method.'"

The note, commenting on this, goes on, "We see in this re-discovery or revival of the use of the rubber bandage, another instance of the repetitions of history," and a good deal more in the same philosophic vein. If the gentleman had read my principal paper on the bandage with the critical care and thoroughness proper in one contemplating a treatise on the subject, he would have discovered that I have (p. 22 of the pamphlet; p. 608 of the volume of Transactions of the American Medical Association for 1877) fully stated the way in which bandages of india-rubber had been used in the palliative treatment of varicose veins previous to the reading of my first paper, and probably long enough before I had ever employed a pure-rubber bandage. I do not claim to be the first person who ever devised or employed, *in any way*, bands or bandages of india-rubber. Esmarch's bandage, as described by its inventor, is of "webbing," a woven fabric, but it is often made, particularly in this country, of india-rubber alone, and it was in use long before any *printed* publication of mine on this subject; and other forms of elastic bandage, in rubber as well as other material, were well known in surgery, both human and veterinary, long before I published anything, and, likely enough, before I first gave the matter a thought.

My claim is, *not* that I first discovered that india-rubber was elastic and that it retained its elasticity even when cut into bands and bandages, but that such bandages, of proper make and material, might be worn next and closely applied to the skin for long periods of time, not only without danger to the circulation or in other ways, but with very great safety and advantage, and become the means of accomplishing, with wonderful rapidity and thoroughness, results which had been sought with only partial success, or with none at all, by other devices, during the whole previous history of surgery. That an author should entitle the effects obtained by my method of employing perfectly smooth bandages of pure rubber in immediate, close, and continued contact with the skin, results of a "*re-discovery or revival*" of a *suggestion* to bind varicose legs with india-rubber bandages "*outside stockings or drawers*," is simply a marvel, the more subtle grounds and reasons for which I shall not waste time in attempting to guess. I have not a doubt that the very distinguished gentleman who has been put forward, on such extremely flimsy grounds, as the original discoverer and practitioner of my method of using the pure-rubber bandage, would be the first to repudiate such a claim. Unlike some men, unfortunately prominent in the surgical department of our profession, Dr. Gross can well afford and is well disposed to rest on the laurels he has honorably and fairly won, and to let those, as honorably and fairly, though not so abundantly gained by others, alone. He is not a daw in peacock's feathers, no Icarus soaring towards the bright sun of professional fame on wings of the wax-fastened and *brass*-fastened feathers torn and stolen from dead and less fortunate and audacious, and so unsuccessful and forgotten, aspirants. Every plume in the broad, strong pinions of our old eagle grew and belongs there. Long may they sustain him in his proud "place of vantage" in the very empyrean of American surgery!

In my pamphlet (note to p. 4, p. 590 of volume of Transactions for 1877) I give full details of the peculiar and successful use of Esmarch's bandage in ulcers of the leg by Dr. S. D. Turney, of Circleville, Ohio, London Practitioner, May, 1876).

† George A. Crosby, M.D., of Manchester, N.H.

27 DUDLEY ST., BOSTON, January 6, 1880.

MERCURIC BICHLORIDE IN DYSENTERY AND DIARRHŒA.

BY BOARDMAN REED, M.D.,

Atlantic City, N.J.

DURING the last two years I have been testing the treatment of dysentery and dysenteric diarrhœa by the bichloride of mercury in somewhat minute doses, as recommended by Dr. Sydney Ringer. My experience with this treatment covers a large number of cases, including most of the varieties of intestinal flux ordinarily seen in this latitude. It has been found particularly valuable in those forms of chronic diarrhœa characterized by dysenteric symptoms, such as the presence of mucus or blood in the stools, with or without tenesmus.

In acute cases this remedy is slow in acting, and in my hands has proved much less successful,—at least until after a purge of castor oil and laudanum has removed the offending cause.

The following transcript from my case-book well illustrates the power of the bichloride in obstinate chronic dysentery:

Case I.—July 4, 1878. Consulted by J. J., aged 45; occupation, formerly a sailor; has lately done odd jobs when able to get about. Weight now about one hundred and twenty-four pounds; looks thin, sallow, feeble, and prematurely old. Gives the following history. In 1865, while in the army, had an attack of dysentery, from which he recovered in five months. No venereal taint can be detected. Since 1874 he has suffered continually with dysentery. Has had numerous loose passages every day, with blood and slime; also constant pain in the bowels, and part of the time "a burning like fire" on defecation. Has fever some of the time, and is never free from pain. During these four years he has tried all sorts of treatment without success. Some of the various treatments increased his strength, but nothing produced any notable effect on the flux. He is now having eight or ten stools a day, and is unable to sleep at night on account of the pain. Prescribed for him hydrarg. chlor. corros., gr. $\frac{1}{2}$, dissolved in distilled water, f℥vj, and directed him to take a teaspoonful every two hours. For diet, directed him to drink freely of boiled milk, and to take with this stale bread or crackers, soups, and fresh beef or mutton, stewed, broiled, or roasted.

July 8.—Returns to-day, at the end of four days, with his medicine all taken, though it should have lasted him nearly a week. Says he has taken it regularly every two hours, day *and night;* being unable to sleep, thought he might as well take it right along. Reports decided improvement, now having only four stools a day, which are more natural in character. No blood, but little slime, and very little pain. Continue bichloride.

July 13.—Comes back in high glee to-day. Says his stools are reduced to *one a day*, and that he has *no more pain.* Feels very much stronger and better every way. Has gone to work. For a long time before he has been unable to do anything. The bichloride continued.

July 20.—Thinks he was "bound up" a little at his last visit, but has since been having three natural yellow stools a day, "about as thick as mud." No slime in them, and only occasionally a slight show of blood, since a few days after beginning the medicine, until last night, when some blood reappeared. Had been eating ham yesterday morning, and oysters in the afternoon. [At this season oysters are a prolific source of diarrhœa here, even in healthy persons.] Has had no more tenesmus at all. He has gained four pounds in weight, and since last here has been steadily at work.

July 26.—Reports himself still improving. Day before yesterday he walked ten miles. Over-exercise makes him worse. Has now about three stools a day, but of thicker consistence than before. Treatment continued.

August 2.—Been having four passages a day for the last four days. This increase probably due to leaving off his milk. Directed him to resume the milk, and go on with the bichloride as before. Has now gained five pounds since beginning treatment. Ordered him also a mild tonic mixture of tincture of nux vomica and fluid extract of chiretta, to be taken in small doses before meals; and a solution of zinc sulphate, gr. ii to f℥i, as an injection per rectum twice a day.

August 10.—Still gaining. He now weighs one hundred and thirty pounds, a gain of six pounds. Looks quite plump in the face. Has two passages a day, of nearly natural color and consistence. His stools to-day were so hard as to bring away a few drops of blood. The injections relieved some little smarting in the rectum, which had been still troubling him. Feels no pain in his abdomen, except occasionally after unusual exertion. Continued the bichloride, and also the injection, as well as the bitter tonic.

From this time patient progressed steadily, and was discharged as well August 29. He had gained in weight eleven pounds.

He remained well till about the middle of November, when a severe cold brought on a return of the dysentery. He obtained a bottle of the bichloride again, and without any other medicine, or even a return to the use of milk, soon recovered. In the January following, a worse cold produced another attack, complicated with bronchitis. He was given hydrarg. bichlor. gr. $\frac{1}{100}$ every two hours, and an emulsion of cod-liver oil, with lacto-phosphate of lime. The cough got no better, and the diarrhœa was aggravated by the oil. Then stopped the latter, and let him continue the bichloride, with only some simple domestic cough syrup. The diarrhœa now soon yielded, and later the cough, his weight being restored to one hundred and thirty-five pounds.

This patient has since returned to his old occupation as sailor, and after living on salt pork, etc., during a long cruise, has two or three times had a return of the flux, but this has uniformly yielded promptly and completely to the bichloride in the same small doses; and so long as he remains at home, paying proper attention to diet (that is, avoiding articles notoriously hurtful to persons not possessed of strong digestive powers), he continues fairly well, though by no means robust.

Remarks.—At first, when the disease was deeply rooted and the patient's constitution seriously impaired, the remedy would scarcely have proved so rapidly curative, and perhaps might have failed altogether, if a favorable diet had not been insisted upon; but it will hardly be claimed that diet alone, without any medicine, could have accomplished equally brilliant results. The astringent enemata performed a good service in removing some remains of inflammation in the rectum. The corrosive sublimate seems to exert less influence over this part, though apparently manifesting a selective action upon the colon.

In most of my other cases the medicine did its work so quickly that the notes are necessarily short.

Case II.—February 24, 1879, A. H., clerk, aged 26, of slender frame, and evidently strumous diathesis, consulted me on account of a chronic diarrhœa of the lienteric type. He had a loose movement after each meal; was often "taken short," receiving very little warning. He had doctored much, having suffered from the disease most of the time for a year and a half. Had taken opiates and astringents in all forms without benefit, and had been for some time under the treatment of an intelligent homœopathic practitioner. I prescribed bitter tonics, and also hydrarg. chlor. corros. gr. $\frac{1}{100}$ every two hours. Patient reported a week later that he was much better and gaining in weight. After the first few days, finding it inconvenient to take the medicine so often, he had taken treble the dose, or about gr. $\frac{1}{33}$, before each meal, and apparently with equal improvement. A short time subsequently he reported himself entirely cured.

December 20.—Patient reported that he has continued free from diarrhœa.

Cases III. and IV.—These were both cases of non-febrile dysenteric diarrhœa in very delicate, feeble, lying-in women. The patients had a tendency to chronic diarrhœa, one of them having been thus afflicted for over a year, following a previous confinement. Other treatment failing, I placed them upon the bichloride of mercury, in $\frac{1}{100}$ grain doses, with the effect of checking the flux in two days, improving at the same time their strength and appetite. In one of these cases the diarrhœa reappeared in a modified form immediately upon discontinuing the remedy, but stopped again upon its being resumed.

Remarks.—In Case II. the good effect of the mercury was manifest, for the patient had previously taken tonics alone without any satisfactory results. His experience with an increased dose and longer intervals is suggestive. I have had no opportunity of trying the remedy further in cases of lienteria, though many more instances might be cited of its value in dysenteric diarrhœa. Its curative power in certain of the intestinal catarrhs of children especially has been frequently noted, but this paper is already too long, and further reports must be deferred. Nor is there space left for speculations as to the mode of action of corrosive sublimate in diarrhœa.

Briefly, it may be said that the bichloride of mercury in its action resembles somewhat the nitrate of silver, sulphate of copper, and various other metallic salts, which, in small doses, produce astringent and tonic effects, though in sufficiently large doses they may cause purging and prostration.

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ACCUMULATION OF CERUMEN SIMULATING CHRONIC BRONCHITIS.—Dr. J. R. Leeson sends to the *Lancet* (December 6, 1879) notes of a case of apparent severe bronchitis, all the symptoms of which disappeared when the ear was relieved of a quantity of inspissated cerumen.

A NOTE ON THE CHEMISTRY OF PHENOL AND THE EFFECTS OF THE SULPHO-CARBOLATES.*

BY DAVID CERNA, M.D., PH.D.

IN a paper on "Phenol" which I had the pleasure of reading before the Society at the last meeting, I somewhat discussed the subject of *phenol-sulphuric acid.* I mentioned that Baumann was of the opinion that the antidotal powers of the soluble sulphates in phenic acid poisoning depended largely, and, indeed, wholly, upon the formation in the economy of this phenol-sulphuric acid.

I said then, judging from some chemical researches that I had made, that I was inclined to disbelieve the statement of Baumann, on the ground that I had been unable to find this new substance. I then proceeded to relate the chemical studies I had made, which had appeared to be of a negative character.

I resumed my investigations on this part of my paper in the chemical laboratory of the university, and, as the result of my observations so far, I must now state that I have been successful in obtaining a sulphocarbolate. My studies were made as follows:

A ten per cent. solution of the pure crystalline carbolic acid was made. Of the magnesium sulphate (the salt used in all these investigations), a solution of half a gramme to the cubic centimetre of distilled water was prepared. Combinations of these two solutions were then made thus:

First. Twenty-five cubic centimetres of the phenol solution and twenty-five of the salt solution.

Second. Fifteen cubic centimetres of the acid solution and twenty-five of the salt solution.

Third. Ten cubic centimetres of the phenol solution and twenty-five of the salt solution.

Fourth. Five cubic centimetres of the acid solution and twenty-five of the salt solution.

All these mixtures were allowed to evaporate spontaneously and over sulphuric acid for some days, and afterwards treated by the application of different degrees of heat, using water-baths. In all these procedures only negative results were obtained.

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* The first portion of this article was read before the Society of the Alumni of the Auxiliary Department of Medicine, University of Pennsylvania.

A very concentrated solution of the magnesium sulphate (sixty per cent.) was then prepared, and the following combinations with the acid were made, using this time the melted crystals of the pure phenol:

First. Ten cubic centimetres of the phenol and fifteen of the salt solution.

Second. Five cubic centimetres of the acid and twenty of the salt solution.

Third. Five cubic centimetres of the phenol and thirty of the salt solution.

Fourth. Five cubic centimetres of the acid and fifty of the salt solution.

The *first* and *second* mixtures were allowed to evaporate over sulphuric acid during the period of four days; the other two spontaneously in the same time. At the end of this time these mixtures were examined, and I found that the *first* and *second* had combined, the other two remaining intact. Of these two combinations that had apparently mixed, almost all of the first and the greater portion of the second had been converted into a solid crystalline mass, to which I immediately proceeded to apply the most characteristic tests for the sulpho-carbolates, as given by Mr. Allen in his "Commercial Organic Analysis," vol. i. p. 325, 1879. In the first place, the mass was found soluble in water, more so in alcohol, especially when hot, but insoluble in ether, thus behaving in all, according to Mr. Allen, like the salts of *phenyl-sulphuric acid.*

If a liquid containing sulpho-phenic acid is boiled for a little while with an equal bulk of strong nitric acid, and then the solution is neutralized with a solution of potassa, a yellow color is produced, due to the formation of potassium picrate. The new mass responded to this test. It is found, however, that phenol itself behaves in the same way: so that the reaction exhibited might have been due to a probable amount of phenic acid having remained uncombined in the mass under consideration.

The reaction of sulpho-phenic acid with nitric acid also results in the formation of sulphuric acid. "Hence," says Mr. Allen, "if any sulphates originally present be removed by the addition of an excess of barium chloride, and the solution be then boiled with nitric acid, white insoluble barium sulphate will be thrown down *if* a sulpho-phenate were present." A solution of the mass in question was for a minute boiled with strong nitric acid, after which an excess of the chloride of barium was added, and thus the sulphates which may have been, and indeed were, present were removed. The filtered solution, then destitute of the sulphates, was afterwards boiled with nitric acid, and as the result of this procedure there was thrown down the white insoluble sulphate of barium, this giving evidence of the existence of a *sulpho-phenate* or sulpho-carbolate. The new mass also gave a deep purple color with ferric chloride, a behavior which is characteristic of phenyl-sulphuric acid. Most of its crystals were needle-like, some of them presenting the form of prisms, due evidently to some of the alkaline salt having remained uncombined. The substance proved to be, then, the sulpho-carbolate of magnesium.

For purposes of experimentation with the sulpho-carbolate of magnesium, to see whether it possessed poisonous effects at all on animals, the salt was prepared as follows. Proportionate quantities of pure phenol and chemically pure sulphuric acid were placed in a flask, and left to stand for the space of twenty-four hours, at the end of which time heat was applied to the mixture to insure a more complete formation of the phenyl sulphuric acid. To this liquid was then added carbonate of magnesium till effervescence ceased. Evaporation was then resorted to, by means of heat. As the result of this procedure the crystals of the magnesium sulpho-carbolate were obtained, proved to be this salt by the tests already mentioned. Experiments were made with this substance, and also with the phenyl-sulphuric acid itself, and with the sulpho-carbolates of sodium and potassium kindly furnished me by Prof. H. C. Wood.

From a large number of experiments I have found that the acid and its salts are poisonous to cold-blooded animals, but not to warm-blooded animals.

I have employed the sulpho-carbolate of magnesium, of sodium, and of potassium, and the phenol-sulphuric acid itself. The latter agent, however, seems to be a mild caustic.

Then the question comes up again, "Are the antidotal powers of the soluble sulphate in phenic acid poisoning due to the formation in the system of phenol-sulphuric acid?" I am still inclined to disbelieve the statement Baumann puts forth, that this substance is formed in the economy when the phenol and the sulphates circulate there.

In my experiments, it was only when a very concentrated solution of the salt and the pure phenol were used that a combination resulting in the production of the sulpho-carbolate was obtained. Mr. Allen states (*loc. cit.*) that if the salt and the phenic acid go beyond a certain point of dilution no combination will take place, a fact which I believe I have been able to confirm in my experiments.

Now, it must be remembered that when both substances, the phenic acid and any of the soluble sulphates, are circulating in the animal economy, they must be in a very dilute form, and, under such circumstances, how can they produce a sulpho-carbolate? Of course the only decisive evidence would be the finding of the phenic-sulphuric acid or its salt in the blood of the animal to which the sulphate and the phenic acid have been administered. But until a careful chemical analysis of the blood under these circumstances shall reveal unquestionably the existence of sulpho-phenic acid or any of its derivative salts, we are not justifiable in accepting Baumann's assertion of a chemical antidote.

To what, then, for the time being, at least, can we attribute the powers of the soluble sulphates in warding off a fatal issue by carbolic acid? To a physiological action of the salts? Perhaps; and not, I think, to a direct but to a remote action of these agents. It is true that the alkaline sulphates, especially those of magnesium and sodium, do not possess any very marked physiological effects even when given in large quantities. Yet they may intimately alter the tissues themselves in some manner as yet unknown, and thus they may be enabled, so to speak, to conquer a more powerful foe.

I must conclude, then, as follows:

I. The sulpho-carbolates possess toxical properties for cold-blooded animals.

II. In warm-blooded animals these salts are innocuous.

III. Baumann's assertion of the soluble sulphates acting as a chemical antidote in phenic acid poisoning cannot, so far, be accepted as a true one.

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CASE OF PUERPERAL SEPTICÆMIA CAUSING SYMPTOMS OF CEREBRO-SPINAL MENINGITIS.

BY G. HAYWARD COBURN, M.D.,

Fredericton, N.B., Canada.

I WAS called, on the evening of December 9, about four miles in the country, to attend Mrs. M. during a miscarriage at the sixth month, and was told that eighteen months ago she had miscarried at the same time. Five years ago she had cerebro-spinal meningitis, since which time she had never been strong. Both her last deliveries had been instrumental, from failure in uterine contractions.

Upon arrival, I found the os uteri well dilated, the liquor amnii evacuated, and the arm and shoulder presenting. The uterus was not contracting. By manipulation I endeavored to bring the vertex to the proper position, but failed. I then gave chloroform and delivered, by podalic version, a six-and-a-half-months' living fœtus. The uterus contracted well under the influence of ergot and pressure. During the few days succeeding, the patient did well, except that her urine had to be drawn off. The pulse ranged from 80 to 85.

Upon the evening of December 13, word came to visit Mrs. M. in haste. Upon arrival, I found her with pulse at 120, high temperature, extreme tenderness over uterine region, with some pain in head. Early in the evening she had had a chill. The lochia were scanty and very offensive; vaginal mucous membrane hot and tumid. Upon inquiry I elicited the fact that the carbolized injections which I had ordered had not been properly used. Upon introducing the catheter a small quantity of dark-colored, offensive urine flowed away. She was also much distressed by flatulence. I used the vaginal syringe thoroughly with carbolized water, and applied warm fomentations to abdomen. Ordered quinine and sodium hyposulphite, also chloral and potassium bromide.

December 14, seventy-five grains chloral and one hundred grains bromide were required to produce sleep. The patient woke somewhat easier, but pain in head soon returned. Pulse 135; temperature high; tongue foul and swollen. Tenderness in uterine region so great that she could scarcely bear the touch of the bed-clothing. Pain in head (occipital region) worse, and extending to back of neck.

Ordered ice to head, with continuation of treatment,—enough of chloral mixture to relieve pain and produce sleep; catheter used, and carbolized injections continued. Lochia still offensive.

15th.—Uterine tenderness better, and lochial discharge not so offensive; pain in head and neck worse, extending down back. The head was now drawn back and quite rigid, the least attempt to move it causing a scream of pain; there was also intolerance of light. Pulse 140, and compressible; burning heat and great thirst; nearly choked at times with eructations from stomach, for which I ordered sodii bicarb. and aq. menth. pip. Continued treatment, with an abundance of milk and beef-tea; ice to suck. Retention still continues.

16th.—Had a bad night; wild with delirium; chloral had no effect. Pulse 140 and irregular; bowels constipated. Substituted for chloral mixture the following pill:

℞ Pulv. opii, gr. xij;
Ext. cannabis Ind., gr. viij;
Pulv. camphor., gr. xxiv.

M. Ft. mas. et in pil. no. xii. div.

S.—One pill every hour until pain is relieved.

To procure relief until pills were obtained, I injected, hypodermically, ⅓ gr. morph. sulph.

17th.—A better night, after taking five pills. Urine drawn by catheter (I may say that I had instructed the nurse in the use of the catheter, that it might be used at night). Pulse 125; skin moist; pain not so bad, but still very sensitive; cannot bear light. Continued pills *pro re nata.*

18th.—Improving. Pain in head and back not nearly so great; pulse 120 and more full. Ordered dose of castor oil, to be followed, if necessary, by an injection.

19th.—Still improving. Only two pills used in last twenty-four hours. Still have to use catheter. Pulse 110.

20th.—Can move head without much pain. Feels much better. Pulse 100; temperature nearly normal; urine passed naturally; more tolerance of light; appetite improved; no uterine tenderness; lochia natural.

23d.—Have continued to hear from patient each day. She is convalescing nicely. Slept last night without any opiate.

The child is thriving nicely, contrary to expectation.

CHILDBIRTH AFTER OVARIOTOMY.

BY JOHN F. WALKER, M.D.

ON the 29th of June, 1875, the late Dr. Washington L. Atlee, assisted by his son, Dr. Atlee, removed a multilocular ovarian tumor from Mrs. J. C., of this city.

Although the patient at the time seemed very much reduced, and the weather was extremely warm, she made a rapid and excellent recovery, being able to sit up in a rocking-chair for several hours on the ninth day.

On the 21st of June, 1877, after a difficult and tedious labor (occipito-posterior presentation), I delivered her with the forceps of a fine, large boy, weighing eleven pounds avoirdupois. Subsequently, on the 4th of October, 1879, I again delivered her of a daughter weighing between eleven and twelve pounds.

This case was one of breech presentation, the labor not being more than ordinarily difficult for so large a child.

Although pregnancy and delivery at full term under these circumstances are not of unusual occurrence, yet, as Dr. J. Ewing Mears remarks (*Medical Times*, August 16, 1879), the cases are sufficiently important to be placed on record.

201 COLUMBIA AVE., PHILADELPHIA.

THE EXISTENCE OF SUPERNUMERARY FINGERS RUNNING THROUGH THREE GENERATIONS.

BY HARRY A. TOMLINSON, M.D.

MRS. P., a colored woman, is the mother of four children, two boys and two girls, each of whom had, when born, a supernumerary finger attached to the first phalanx of each little finger.

In the first and the third child the extra fingers were fully developed, and in all respects like their fellows, save in their attachment, which was by a pedicle, to the metacarpal head of the first phalanx.

The second and the fourth child had the fingers attached at about the middle of the first phalanx, and they were more rudimentary in the degree of their development.

In the child I saw, and from whom I removed the fingers, the rudimentary finger was supplied with a branch from the digital artery, the division of which gave rise to considerable hemorrhage. The mother also had the two extra fingers, and her father had six fingers and six toes.

This multiplicity of fingers did not extend any farther back than to the grandfather of the present generation, nor did the brothers and sisters of the mother of these children have the deformity.

TRANSLATIONS.

Bamberger on Bright's Disease and its Relations with Other Affections.—The *Centralblatt für Chirurgie* (No. 47, 1879) contains an abstract of a clinical lecture by Bamberger (one of Volkmann's well-known series), in which an analysis of two thousand four hundred and thirty autopsies of Bright's disease is made. The cases are divided into two categories. The first, comprising one-third of the cases, includes those where the kidney affection occurred alone. The second, comprising two-thirds of the cases, embraces those where the renal trouble was connected with some other disease. No anatomical distinction could be made between the two series of cases, excepting that amyloid degeneration seemed more usual in the secondary form. On the other hand, the clinical difference was well marked; the secondary Bright's disease often remaining entirely latent and without those characteristic symptoms which are hardly ever absent from primary Bright's disease. A decided difference appeared also in the reflex effect upon the heart. In the primary form enlargement of the heart occurred in 42.6 per cent. of the cases, while in the secondary form this was found in only 3.3 per cent. The following table shows the various concomitant affections and the comparative frequency with which they are respectively connected with Bright's disease:

Tuberculosis, phthisis, scrofula, 15.7 per cent.

Valvular deficiencies in the heart, 9.1 per cent.

Pregnancy, puerperal processes, 6.5 per cent.

Diseases of the urinary passages, 5.5 per cent.

Suppurative processes, 5.2 per cent.

Alcoholism, cirrhosis of the liver, 4.8 per cent.

Carcinoma, 4.2 per cent.

Pulmonary emphysema, 3.5 per cent.

Typhus (typhoid?—Ed.), 2.4 per cent.

Syphilis, 2 per cent.

Scarlatina, intermittent fever, 1.2 per cent.

These primary affections may be divided into three classes: 1. Those in which the Bright's disease is brought about by toxic or infectious bodies, most frequently by the absorption of disintegrated organic matters, together with the lower organisms connected with this process. To this category also belong scrofula, tuberculosis, and phthisis, caries and necrosis of the bones, suppuration, syphilis, acute infectious diseases, etc. 2. Those where the trouble is brought about by venous stagnation, or by diseases of the circulatory and respiratory apparatus. 3. Those where the cause is to be found in retention of the secretion by narrowing of the urinary passages.

For the primary form of Bright's disease the etiology may not infrequently be traced to "catching cold," although the cause is often obscure. Women are more likely to be attacked than men.

Hemorrhage into the brain is one of the commonest sequelæ of Bright's disease, occurring in ten per cent. of the cases. Croupous pneumonia is another; pleuritis, pericarditis, dysentery, with extensive intestinal catarrh, are also common. The relative frequency of hypertrophy of the heart differs in the various stages as follows: in the acute stages it occurs in 22.4 per cent.; in the chronic, in 34.2 per cent.; in the atrophic, in 54 per cent.

The cause of the more common occurrence of cardiac hypertrophy in connection with small granular kidney than with the large (parenchymatous) variety lies in the more prolonged course of the former rather than in any pathological peculiarity.

The cardiac hypertrophy is in most cases connected with dilatation. It occurs either on both sides or on the left alone. After a close examination of the various theories which have been brought forward to explain the connection between the cardiac and the renal affections, Dr. Bamberger states his own view, to the effect that the hypertrophy of the heart is not dependent upon the concomitant arterial disease (thickening of the vascular walls), nor upon disease of the muscular structure of the heart itself, since this is rarely or never observed. He holds to the theory that diminished excretion of water throws a greater amount of work upon the heart, and thus gives rise to its hypertrophy. It is true that in contracted kidney the amount of water passed is increased rather than diminished, but it may be supposed that in these cases a stage of diminished excretion of water has preceded, and has given rise to the cardiac hypertrophy.

INJECTIONS OF CHLORIDE OF ZINC IN NASO-PHARYNGEAL POLYPI.—At a recent meeting of the Société de Chirurgie, a communication was read from M. Barthelmy, of Toulon, relative to the case of a child of 14 who suffered from excessive epistaxis, which was found on examination to proceed from a large polypus depressing the velum palati and partly obliterating the nasal fossæ. Two attempts were made to remove the tumor by twisting off with forceps, but in vain. Surgical interference being declined, M. Barthelmy incised the velum and injected chloride of zinc through the opening into the parenchyma of the tumor. Nine times in the course of about two months he injected five drops of the (saturated solution of?) chloride of zinc, which caused entire destruction of the tumors. At the end of six months, however, there were signs of recurrence.

In the course of the discussion which followed, M. Anger recalled that Nélaton had, fourteen years ago, suggested the employment of caustics, and had urged him to make experiments in this direction. He had arrived at the conclusion that perchloride of iron was the best agent. It removes the tumor, leaving behind a small, hard scar, preferable to the soft scar left by chloride of zinc. In two cases the success of treatment was quite satisfactory.—*Le Progrès Méd.*, 1879, No. 49.

HISTOLOGY OF PSORIASIS VULGARIS.—Neumann (*Cbl. f. Med.*; from *Wiener Med. Jahrb.*, 1879, s. 67) finds prickles preponderating on those cells which are situated between, and immediately above, the papillæ; the latter show a more vertical or oblique arrangement. The cells situated over the papillary stratum are distinguishable by their more granular contents, and the cylindrical cells, which in the normal condition cover the papillary projections only in a single layer, are found in two to four layers one over the other. The complex of newly-formed cells between the papillæ form frame-works, which, when their number is more greatly increased, bind the papillæ to the rete. The papillæ are usually elongated twelve- to fifteen-fold (!—ED.), filled with a wide-meshed net-work containing round cells, and variously changed in shape from the growth of the cells of the rete. The cutis, of which the meshes become wider and the connective-tissue bundles broader, is, chiefly in its upper layers, particularly along the vessels, filled with aggregations of round cells. The swollen blood-vessels are here and there narrowed in their lumina by endothelial growth. The lymphatics are enlarged, the smooth muscles hypertrophied. The cellular contents of the sweat-glands and hair-follicles are increased, the mouths filled with horny cells, the opening of the sweat-ducts widened, and the glandular coil surrounded by round cells.

LIGATION OF THE TWO LINGUAL ARTERIES FOR TUMOR OF THE TONGUE.—M. Després (*Soc. de Chirurgie; Bull. Gén. de Thérap.*, vol. ii., 1879, p. 472) describes the case of a girl of 12 who presented on the point of her tongue an erectile patch which had existed from birth. At the time of examination this patch had grown to be a small tumor, which was situated to the left of the tongue, in the sub-hyoid region. It presented a slight thrill, and was evidently an arterio-venous aneurism. Compression of the left external carotid caused the thrill to cease, as also occurred when the lingual was compressed near its origin. In operating, M. Després did not cut into the hypoglossal muscle perpendicularly as is usually done, a procedure always giving rise to hemorrhage, but he caused the head to be pressed back so as to bring the lingual prominently out, compressed the lingual vein between two ligatures, and, separating the fibres of the hyo-glossus, the vein, being tied, was cut, and the artery gotten at and ligated without much loss of blood. This procedure was followed on both sides, and resulted in what was at first supposed to be a cure. Some forty days after the operation, however, a slight thrill could be felt under the chin: so that it could, strictly speaking, only be regarded as palliative.

ULCERATIVE LYMPHANGIOMA OF THE FOOT.—A. Bryk observed a case of this affection in a laboring-man 26 years of age. Elephantiasis had developed during fifteen years in a typical manner. The right external iliac artery was tied, but the process went on to ulceration in the foot, metastatic lymphangioma of the skin of the thigh, of the upper extremities, and of the mucous membrane of the hard palate ensued, and the patient died of exhaustion. Full notes of the case are given in the *Archiv für Klinische Chirurgie*, 1879, Bd. xxiv. Heft 2.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 31, 1880.

EDITORIAL.

ON THE REPORTING OF CASES.

THE number of medical periodicals in the world is certainly a very large one, and the surface covered in these journals with the descriptions of individual cases must annually amount to acres. Very few persons, according to our thinking, appreciate the number of the units which make up the world's clinical records. Hydrophobia is a rare disease, and yet we have been credibly informed that there are something like one thousand cases recorded. Every young hospital physician nowadays must score his dozen of aortic aneurisms before he appreciates that an ordinary report of such a case is about as valuable an addition to medical literature as a new grain of sand would be to the beach of Atlantic City.

It would seem that case-reporting was a busy idleness; but it is the abuse and not the restrained use of the recording faculty that constitutes the modern nuisance,—a nuisance whose growth, it must be acknowledged, is marvellously increased by the rapid multiplication of journals. The journal must be published; its pages must be filled; and but too often this is accomplished only by a foraging on the part of the editor worthy, in its thoroughness and skill, of one of Sherman's Bummers.

Before reporting a case, the tyro should always be sure that it is worth reporting. The value must not, however, necessarily be a permanent one. Journals are largely for the present, and there are times when a common disorder is well worthy of notice. The first case at the outbreak of an epidemic may often be of inestimable value even in detail, and may even become historic. Fresh narrations of rare cases, or of complicated cases in which an autopsy has solved the enigma, may be of great value as a means of refreshing the memory of the passing reader, or of adding to his experience. In law, a judicial decision in a novel case is of permanent value; and when the diagnosis has been during life uncertain, the revelations of the post-mortem bear some of the authority of the judge's dictum.

Before reporting a case, however, the physician should have some very clear reason for putting it on record, not yielding to the temptations of a facile pen, or of the pittance paid by medical journals, or to the fact that by reason of his own ignorance or lack of experience the case seems novel to himself.

If careful consideration should be given to deciding the propriety of making any report of a case, no less consideration should be bestowed upon the method of this report. In most cases, if the descriptive powers of the writer are at all good, a graphic description of the general course of the disease is much better than the plastering down of extracts from the bedside note-book. In taking notes on an obscure case it is often proper to put down all the details, because it may be impossible to judge what are the essentials; but when the record is complete the important symptoms ought to be clearly perceived, and as clearly stated in the finished report. Time is so valuable that all unimportant details must be suppressed. Even in the first note-taking it is perfectly possible to become lost in a bewildering maze of trifling symptoms. Some time since, a young assistant, desiring to be very painstaking, brought as the result of one night's watching of a very serious case nearly a quire of closely-written foolscap, of which the following is a sample:

"1.15 A.M. The patient is seen to slowly rise from his bed and seat himself upon the chamber, where he remains with much straining and looks of anguish for some minutes. 1.30 A.M. He has returned to bed. 1.35 A.M. Examined the pot. Nothing in it."

To which a note might be well appended, "Examined the assistant's head. Nothing in it."

In reporting the progress of a case from day to day it is far better to say, "From June 1 to June 6 temperature kept high, varying from 104° morning to 105° evening," than to give elaborate tables of temperature. So should it be throughout,—a charcoal sketch of the outlines of the attack, with the important points in bold strokes, and the details more or less common to all cases of sickness omitted.

DR. BLACKBURN, Governor of Kentucky, deserves great praise for the very ingenious and effective method he has adopted for bringing the good people of his State to an appreciation of the fact that criminals are human beings. The condition of the prisons over which the doctor has official jurisdiction seems to be almost beyond belief. Without occupying much space, it is sufficient to quote one paragraph from the governor's message:

> "This terrible state of affairs required as a necessity that three hundred and seventy-eight of these wretched men should be thrust and immured two in a cell, although these cells were but three feet nine and a half inches wide, six feet three and a half inches high, and six feet eight inches long. These small, dark, ill-ventilated cells did not even contain sufficient air to support one man, and the death-record gives us abundant proof of this fact. From the 1st of January last up to the present time there have died seventy-four. This is a fearful mortality."

The remedy, which the governor is industriously applying, is wholesale pardoning; and, as it is much easier to pardon than to convict, the Legislature will assuredly be forced to make proper provision for the criminals, provided Dr. Blackburn does not weary in well-doing.

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THE cold in Italy during the present winter has been very severe. A sentry at Florence and a cabman at Genoa have been frozen to death.

LEADING ARTICLES.

FOOT-BINDING IN CHINA.

A VERY interesting paper upon this subject, read by Dr. Robert P. Harris at a recent meeting of the College of Physicians of this city, affords an opportunity of drawing attention to the peculiar deformity of the feet brought about by the process of foot-binding practised in China, and the manner in which the tender structures of the infantine foot are carefully mis-trained and distorted into grotesque uselessness.

It appears, according to Dr. Harris's statement, that, among the wealthy and those who can afford to have it done, the first binding takes place at the age of from five to seven. Earlier than this it cannot be done, contrary to the statements of some travellers, because the child must first learn to walk and do certain acts or kinds of work in which walking is essential, or it will not be able to learn. Circumstances sometimes cause the postponement of the dwarfing process until the age of twelve, fourteen, or even twenty; but the suffering then caused is extreme, and the result less satisfactory.

The first step in the process is the bending of the four smaller toes under the sole of the foot, and the narrowing of the parts supported by the metatarsal bones. The second step consists in a forcing together of the plantar portions of these bones, whereby they are subjected to a continuous pressure, and in an opening, or an attempt at opening, of the articular crevices of the instep, keeping their ligaments constantly tense at the same time. The third step is the last to be accomplished, and can be completed only in the young subject. The os calcis, with the astragalus, is forced downward until the heel is vertical, and its bone on a line with the bones of the leg. The calcis is rounded in form, losing its processes, which are so marked in the normal bone; and its anterior articulating face is brought up near to the high, instep-like arch just in front of the ankle-joint, while at the same time the point of attachment of the tendo Achillis is made the base upon which the girl stands when erect and steps in walking.

The operation is begun by placing the end of a long, narrow bandage on the inside of the instep, carrying it around over the four smaller toes and taking them under the foot. After several turns with this object, the bandage is turned so as to compress the foot longitudinally. The bandaging completed, the child is left to endure the torture for a month. At the end of this time the foot is opened, when the skin is often found ulcerated, or gangrenous from pressure, and one or more toes are not infrequently lost.

The shaping of the foot by the bandage requires from two to three years, during which period there is more or less pain. This is most severe in the first year, and gradually diminishes after the bending of all the joints and articulations is completed. During this period, and in fact throughout life, the feet are unbound but once a month.

The suffering at first is very severe, and is located chiefly in the toes, joints, ankle-bones, and instep: it is compared by those who have endured it to that produced by the thrusting of sharp needles into the flesh. At night the girl lies across her bed, putting her legs over the edge of the bedstead, so as to make a pressure under the knees, and thus benumb the parts below them. In this position on her back, swinging her legs backward and forward, she passes many a weary night. Febrile disturbance is said to be an accompaniment of this torturing process.

If the feet are firmly bound, and the girl young, they will cease to ache generally in about two years, the parts being then denominated "*dead.*" By this time the calf of the leg, for want of use, has disappeared, the skin is shrivelled, and the whole extremity below the knee presents an atrophied and shrunken appearance, being little more than skin and bone. The bones eventually become attenuated, and the ankle measurement of a dwarf-footed woman is about the same as that of her wrist. In adult life the leg frequently becomes rounded and enlarged by adipose deposit, and the muscles regain their form in a measure; but the ankle always remains small.

The binding process is said to exercise a markedly depressing influence upon the emotional character of its subjects, which lasts throughout life and is very characteristic. Dr. Harris calls attention to a practical point in orthopædics in connection with this procedure of foot-binding. He suggests that in splay-foot and similar deformities, the converse of the Chinese deformity, a similar sort of binding, thoroughly carried out, would prove highly advantageous.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 11, 1879.

THE PRESIDENT, DR. S. W. GROSS, in the chair.

Adenoma of the breast. Presented by DR. MORRIS LONGSTRETH.

THE specimen was obtained from a patient in the Pennsylvania Hospital, named Ann Williams, colored, æt. 53, widow, washerwoman, who was admitted October 7, 1879, under the care of Dr. R. J. Levis. Her family and personal history was good. She had been treated in the hospital previously for rheumatism. Eighteen years ago, while washing, she ran a needle into the right breast at the nipple; it caused but little pain, and she had forgotten it until, two months after, she noticed a slight discharge, which was bloody, from the nipple. Two or three months later a hard lump was found in the breast, on examination. The discharge ceased after a time, but the breast steadily and very slowly increased in size. Eight years ago (ten years subsequent to the injury) a sore broke out below the nipple, which has never healed; a year ago another sore formed to the outer side of the areola, and there has been a continual slight discharge from both openings. There have been darting and burning pains in the breast for years, and for the last few years the pain has been constant. The patient was married twenty-five years ago; has had three children (one of whom died of croup, the other two were still-born), all prior to the breast-trouble.

On admission she was seen to be stout and healthy-looking, and felt well, with the exception of the pain, which prevented sound sleep. She wished for an operation on account of the pain in the breast. There was found a tumor in the right breast, which was very large, prominent, and irregularly conical in shape. There were seen the two openings which the patient had described,—the one below, the other a short distance to the outer side of, the nipple. The breast was removed (Dr. Levis operated) by two incisions, making an elliptical figure over the tumor from right to left and slightly downwards, about six inches in length and two inches at the widest part. The mass was about the size of two fists. The axillary glands were not enlarged.

Description of the tumor after its removal.—The mass presented a very prominent, somewhat conical shape, covered by an elliptic-shaped flap of black skin, in the middle portion of which were the nipple and the two ulcerations. The nipple was very slightly projecting, having a soft, delicate feeling to the touch. The openings were of small size, scarcely admitting the tip of the little finger; they were seated at the bottom of slight depressions in the surface of the breast, and were surrounded by areas of whitish, cicatricial tissue, contrasting markedly, both in color and consistence, with the adjacent normal black-pigmented skin; their edges were smooth and tended to inversion, and show no appearance of fungous granulations. A probe passed into these openings entered a narrow sinus leading a short distance into the substance of the tumor; a slight amount of pressure brought up a little thick matter, of a pinkish color, similar in character to that discharged previous to the operation.

A large portion (probably a fourth) of the mass removed was composed of normal adipose tissue, situated largely in the direction of the axilla. The tumor itself was a rounded mass, somewhat flattened; a considerable amount of fat was laid over and pretty firmly adherent to the firm, tense, shining, fibrous capsule enveloping the new growth. The tumor was lobulated, with the lobules well compacted. An incision, made from the posterior surface and carried to the region of the nipple, showed the large masses to be composed of a homogeneous, pinkish-white tissue, subdivided into smaller nodules by bands of connective tissue of a varying width. The surface of the section was finely granular, and there were seen numerous small cysts seated in the interior of the nodules, more numerous towards the nipple portion of the growth; these cysts contained a thin, blood-stained fluid, varying, however, in its depth of color. At the lower border of the tumor, in the neighborhood of the opening, on the skin below the nipple, were several large-pea-sized cysts filled with blood, and having thick, fibrous walls.

The tumor, after the fat was removed, measured five inches in length, two inches in breadth, and three inches in thickness.

Two cases of true adenoma of the mamma, with brief remarks upon the histology and general pathology of that affection. Presented by Dr. Samuel W. Gross.

The specimen which has just been exhibited by Dr. Longstreth is very similar in its main features to one which he presented to the Society last spring. In both the tumor developed after the thirtieth year; in both it ulcerated and discharged a sanious fluid; and both had existed for eighteen years before their removal. In addition to other points of likeness in their gross appearances, they were pervaded by cysts, and were found, under the microscope, to be made up of cystic acini and ducts lined with columnar epithelium. From the predominance of ducts, they are both to be classed as tubular adenoma, which represents a common variety of this type of new growth.

Since the appearance of a paper from my pen on "True Adenoma of the Mamma," in the *American Journal of the Medical Sciences* for October, 1879, I have had an opportunity of examining microscopical sections of two additional examples. As adenoma is, next to myxoma, the most uncommon of all the neoplasms of the breast, I avail myself of this opportunity to show you the slides, with their histories, and present you with a summary of what I have deduced from the study of seventeen cases of this little-understood affection.

Case I.—A mulatto girl, æt. 16 years and 7 months, single, and the subject of regular but painful menstruation, noticed a tumor in the upper portion of the mamma, which caused her no inconvenience, but led her to seek its enucleation because "she did not like to have a lump in her breast." On its removal, three months subsequent to its appearance, by Dr. Armistead Peter, of Georgetown, D.C., it was found to be oval, nodulated, and to measure one inch and three-quarters in length by one inch and a quarter in breadth. At the expiration of twenty-eight months there was no recurrence.

Examination of a mounted section of the growth, which is numbered 6755, Surgical Section of the Army Medical Museum, shows, in addition to a few ducts, with appended acini, which are characteristic of the normal physiological condition of the breast at the age at which the tumor appeared, an immense number of closely-aggregated longitudinal and transverse sections of ducts, lined with spheroidal and cuboid epithelium, and provided with a central lumen. They are contained in a delicate, young connective tissue, and are, doubtless, offshoots from dilated acini.

Case II.—A married lady, barren, but menstruating regularly, discovered, at the age of 43 years, a small nodule in the upper and inner portion of the breast. It continued to grow, with periods of dull and sometimes lancinating pain, for three years, when her attendant punctured a prominent elastic nodule, which bled freely, and the slight wound took on ulcerative action. At the date of its removal, six years after its appearance, by Dr. John Sloan, of New Albany, Indiana, to whom I am indebted for the history and the microscopical section, the larger portion of the mamma was converted into an irregular, lobulated, and firm tumor, the upper surface of which was converted into an excavated ulcer, which discharged a sanious fluid, and measured two inches in diameter. The nipple and axillary glands were normal. At the end of two years there was no tendency to recurrence.

The section discloses that the growth was composed, first, of enormously-dilated acini, lined by hypertrophied, cylindrical epithelium, a few of which contained vegetations composed of delicate connective tissue clad with epithelium of the same character, and, secondly, of ducts, many of which were beaded and cystic, and which were likewise lined by columnar epithelium. The latter preponderated to such an extent that the growth may be denominated a cystic tubular adenoma. The interglandular connective tissue was very delicate and sparse, and, here and there, the seat of an extensive small-celled infiltrate.

The term adenoma is applied by certain pathologists, as Cornil and Ranvier, Waldeyer, Luecke, Foerster, and Wilks and Moxen, to neoplasms in which there seems to be a simple exaggeration of the normal physiological structure of the breast, as the acini, along with their epithelium, preserve their normal form and size and arrangement, and are provided with a central lumen, the only difference being that the connective tissue is sparse in the morbid formation. Of the five specimens that I have examined, the only one which approaches this description is the one removed by Dr. Peter, but the likeness to the normal structure is far from striking, the efforts of nature having been limited to the excessive production of glandular apparatus, without attempting to unite the acini into distinct lobules attached to excretory ducts.

The remaining sixteen examples that I have collated, and five were brought to the notice of this Society by Dr. Longstreth, Dr. Nancrede, and myself, all showed either marked enlargement of the acini or offshoots from the dilated and cystic acini, in the form of tubes or ducts, with aberrations in the characters of their investing epithelium. Thus, in ten instances the tumor was composed of excessively-dilated acini packed with polymorphous cells, which could be expressed from the cut surfaces of the growths as atheromatous moulds or plugs. It is to this form of adenoma that Labbé and Coyne, Malassez and Deffaux, and Duplay have incorrectly applied the term epithelioma. In the other six specimens the ducts predominated, and these arose, as I have demonstrated in the paper referred to, with the aid of a beautiful drawing by Dr. Shakespeare, from the dilated acini by a process of budding and extension into the scant connective tissue of the gland. In these cystic tubular adenomas the epithelium, instead of being polyhedral, assumes a cylindrical or columnar form, as is so well shown in the specimens of Dr. Levis and Dr. Sloan presented this evening. Hence it appears that true adenoma consists not only in a disorderly hyperplasia of the lacteal glands, but also in deviations in the form, size, and arrangement of the epithelium, on which account it is atypical in the strict sense of that term. The exception to this rule may be found in such specimens as that of Dr. Peter, which constitutes the only one of the seventeen cases that I have analyzed in which there was any approach to the normal physiological standard.

Adenomas always occur singly: they develop as early as the sixteenth and as late as the fifty-ninth year, or at the thirty-fifth year on an average. The greatest number of cases are met with in prolific married women who menstruate regularly during the functional decline of the mamma. They usually arise without assignable cause, and the general condition of the patients is excellent. They increase slowly, as a rule, and always by the apposition of new nodules to the original tubers. In exceptional instances they attain the volume of a double fist or a fœtal head. In only 6.66 per cent. of all cases are the subcutaneous veins enlarged; the skin is discolored in 26.66 per cent. and adherent in 40 per cent.; the nipple is sunken, not retracted, in 13.33 per cent., and discharges a bloody or lactescent fluid previous to the detection of the tumor in 26.66 per cent.; ulceration occurs late in the disease in 40 per cent., and in nearly one-half of these there is fungous protrusion, without adhesion to the margins of the opening; and the lymphatic glands are the seat of irritative enlargement in 13.33 per cent. There is no pain whatever in two-thirds of the cases.

From these facts it follows that adenoma is characterized by its firm consistence, nodular outline, slow and equable growth; its occurrence in child-bearing females towards the thirty-fifth year; the limited discoloration and adhesion of the skin and ulceration late in the disease, and freedom from retraction of the nipple, prominence of the subcutaneous veins, attachment to the chest, and involvement of the axillary lymphatic glands. If the tumor has been preceded by a discharge by the nipple, the probabilities in favor of its being an adenoma are greatly increased.

With regard to the prognosis after operation, I will merely add that three patients remained well respectively for six, twenty-four, and twenty-eight months. One was alive at the end of two years, but with suspicious indurations near the cicatrice; one was well thirty-one months after the removal of a recurrent growth; while in one there was local recurrence and enlargement of the axillary glands in less than one year, and death ensued two years later, but there was no post-mortem inspection of the body. In the remaining eleven cases the history ceases with the recovery or death of the patient. Hence adenoma evinces a decided tendency to recur, but there is no evidence going to show that it infects distant organs.

Intra-laryngeal growth. Presented by Dr. C. Seiler.

On June 14 I was asked by Dr. Ludlow to see, with him, a case, and make a careful laryngoscopic examination, with a view to determine, if possible, the cause of a persistent aphonia, from which the patient had been suffering for about eighteen months.

On reaching the house I found the patient to be a gentleman 64 years of age, and elicited from him and from Dr. Ludlow the following history:

Mr. H., the patient, had always enjoyed good health until about eighteen months before, when, after violent exercise in the open air on a cold winter's day, his throat became sore and his voice hoarse. The usual treatment for acute laryngitis relieved him of his symptoms, with the exception of the hoarseness, which, although not as bad, still continued. He felt quite well until August, 1878, when again his throat became sore and his voice left him. He tried various remedies, and especially counter-irritants about the neck and throat, without relief, and his throat gradually became worse. In the latter part of December of the same year, a swelling of the neck began to show itself, together with shooting pains in the left ear.

Becoming alarmed, Mr. H. consulted Dr. J. S. Cohen, who, on laryngoscopic examination, discovered a small neoplasm overlying the left vocal cord, and advised him to have it removed, but the patient was not then willing to submit to any operation. He afterwards placed himself under the care of Dr. Barton, who made several applications to the larynx by means of a brush, without giving relief. Homœopathic treatment was also resorted to by the patient, at the instance of friends, with no result, and finally he returned to his family physician, Dr. Ludlow. As the swelling on the neck had become very great by this time, counter-irritants and leeches were again resorted to, with transitory relief.

On examination, I found the larynx to be greatly swollen and almost immovable, but not tender on palpation. The patient complained of a sense of fulness about the throat, shooting pain in the left ear, difficulty of deglutition, together with a dry, short cough, especially during his meals, and dyspnœa. A laryngoscopic examination showed the epiglottis to be swollen and red; the aryepiglottic folds were tumefied so that the outlines of the arytenoid cartilages were obliterated, especially so on the left side. A lobated, raspberry-like growth, of the size of a small pea, was lying on the left vocal cord, and apparently springing from the left ventricle, the ventricular band on that side being tumefied. In the anterior angle of the thyroid cartilage there appeared a small, round prominence, of a white color and smooth, glistening surface, which at that time I supposed to be a small fibrous growth of but little significance. The right side of the larynx was apparently but little affected by either the œdematous swelling or the inflammation. A view of the subglottic cavity could not be obtained.

The patient was then willing to have the tumor removed from the larynx, and, the case being handed over to me for laryngeal treatment, I introduced the guillotine and succeeded in removing a small portion of the tumor. This, however, made the throat very sore, so that I desisted from operating for several days, and ordered leeches applied to the neck. One of the leech-bites discharged pus, and proved, on probing, to be the opening to a sinus some one and a half inches in length.

Several pieces of tumor were subsequently removed, and I noticed that the white swelling at the anterior angle of the thyroid increased very rapidly and encroached upon the opening of the glottis to such an extent that it was deemed necessary to perform tracheotomy, which was successfully done on July 7, Drs. Cohen, Ludlow, and Wirgman assisting me. The patient recovered rapidly from this operation, and improved in general health so that he was able to be out. The abscess in the neck over the thyroid continued to discharge and the laryngeal tumor to grow more rapidly than the patient would let me remove it, until the pain about the neck became very great and the shooting pain in the ear intolerable; there was also a very harassing, dry cough, which prevented sleep.

Finally, on August 7, the patient consented to have a free incision made into the abscess, as had been urged by me for some time, and as was advised by Dr. Levis, who had been called in to see the case. The incision which I made discharged but little pus, and, on passing in the finger, it was found that the larynx was open, and a large piece of papillary growth was removed through the opening. This piece was examined microscopically, and found to be a papilloma, the connective tissue of which was infiltrated, resembling very much sarcomatous tissue, so that the growth was considered to be a sarcoma with papillary outgrowths by Drs. Shakespeare and S. W. Gross, who both examined a section of it.

A slight chill followed the operative interference, which, however, was not repeated, and the patient felt greatly relieved of the pain in the neck and ear, but the cough remained unaltered. The external wound was kept open by a large drainage-tube, and daily small pieces of the growth were removed through the opening. A laryngoscopic examination which was made several days after the external operation showed that the larynx was still filled with the whitish mass, and I then conceived the idea that the piece of growth removed had been external to the larynx, and that the swelling of the neck was in a great measure due to parts of the growth having penetrated the tissues around the larynx. Dr. Ludlow, as well as myself, then urged a further splitting of the larynx, in order to remove, if possible, the whole growth, but the patient's family would not consent to any further operation.

The tumor in the larynx continued to grow, and by the middle of October had so encroached upon the epiglottis that deglutition became almost impossible.

The patient then consented to another operation, and on October 24 I performed laryngotomy, Drs. Cohen, Ludlow, Packard, and Wirgman kindly assisting me. The masses of tumor before you were taken, both from within and without the larynx, by means of a spoon and by scraping with the finger-nail, until apparently all traces of growth were removed, and the larynx, as well as the trachea, was found to be clear.

The patient made a rapid recovery from the operation, and in two days was able to swallow solid food; he was able to be out-of-doors two weeks afterwards. A laryngoscopic examination showed the larynx to be perfectly clear of any growth, but there still existed a stenosis of the trachea just above the tracheotomy-tube, so that the operation had not been successful as regards re-establishing the natural respiratory tract. This stenosis I endeavored to remove by dilatation, passing the dilator both through the mouth and larynx, as well as through the external opening, which I kept open for that purpose. The patient's general health improved very much, and, being desirous of being able to pass some air through his larynx, he asked that another operation be made in order to remove the obstruction.

This I did on December 6, Drs. Cohen and Ludlow assisting me, and found that there was a mass of tumor inside as well as outside of the trachea, close down to the opening of the tracheotomy wound, as well as a good deal of cicatricial tissue within the trachea. This latter was broken down, as well as could be done, and the former removed by means of the finger-nail and spoon, until free communication was established between the trachea and the outer opening above.

During this operation, as well as during the former, a novel tracheotomy-tube was employed, at the suggestion of Dr. J. Solis Cohen, in order to prevent any blood from running into the trachea, and also to facilitate the administration of ether during the operation.

The patient made a very rapid recovery from the operation, the febrile symptoms being hardly perceptible, and he was able to be up and about on the next day, but not able to breathe through his mouth, as the wound was still kept closed with cotton with a view to prevent cough from the dropping down into the trachea of pus and blood.

All through the course of the disease the pulse never rose above ninety, except after the second operation, when the patient had the chill, and the temperature also remained normal throughout. There were no glandular enlargements; in fact, no systemic symptoms of malignant growth.

The question of greatest interest in this case is, Where did the tumor originate, in the larynx or outside of it? The appearance of the white swelling at the anterior angle of the thyroid, which was seen in the laryngoscope growing backward and gradually filling up the larynx after the external swelling of the neck had existed for some time, would indicate that the tumor originated outside of the larynx, perhaps in the atrophied thyroid gland, and had pushed its way into the larynx by splitting the thyroid cartilage.

A microscopical examination of sections of the tumor shows it to be composed of pegs of large epithelial cells, many of which are multinucleated, and in the centre of them ducts of glands are seen filled with granular débris. The tissue between the epithelial pegs is composed of young spindle- and round-celled tissue, separating the epithelial elements so that they form finger-like projections.

Dr. **Gross** said, in reply to Dr. Seiler's reference to his microscopical examination of the tumor, that the section given to him was one obtained from the first scraping of the larynx, and that it presented the appearance of the histological structure of embryonic tissue. Hence he thought it very probable the true growth had not been examined by him, but only a portion of the surrounding inflamed tissue. This opinion was subsequently confirmed by his examination of a section from a later scraping, which led him to consider the growth to be of an undoubted epitheliomatous nature.

Dr. **Cohen** said the patient had consulted him in December, 1878, as to the cause of a hoarseness of permanent character, and at that time laryngoscopic examination revealed a small supraglottic growth, apparently papillomatous, projecting from the ventricle of the right side, about the size of an ordinary white bean, and quite accessible to forceps, by means of which he felt certain that it could have been easily removed. He did not again see the patient until requested by Dr. Seiler to assist him in the operation of tracheotomy, some six months subsequently; during the interval he understood that the patient had been subjected to local applications of astringents and caustics by other practitioners, and he considered this poking at the growth an influential factor not only in causing the growth to increase in size, but probably in changing its clinical significance from benign to malignant, and in producing the abscess of the larynx. The rapid increase in the bulk of the intra-laryngeal neoplasm after partial removal, laryngoscopically, subsequent to the operation, had led him to the belief that the neoplasm was a malignant one with papillary outgrowths; but the usual cachectic clinical manifestations of malignancy had not at any period been apparent. Though he had seen epitheliomas as extensive as the growth in question, and even more so, he had never seen or even read or heard, as far as he could remember at the moment, of a papillomatous formation of this magnitude in the same locality. Dr. Cohen's impression was that the irritation to which the intra-laryngeal growth had been subjected had produced an abscess of the larynx, which had ruptured through the crico-thyroid membrane, which was certainly found open at the second operation to remove the peri-laryngeal growth, and that the peri-laryngeal proliferation had been an extension of the endo-laryngeal growth through the fistula. As the absence of ulceration at any time and of involvement of the skin was unlike the clinical manifestations of undoubted epithelioma of the larynx and thyroid gland, he would ask whether this might not be an example of cylindrical or tubular papilloma or diffused papilloma originating in the ducts of the tubular glands of the laryngeal mucous membrane, and thus presenting the aspects of epithelioma without actual involvement of the deeper submucous structures. The propriety of excising the larynx had been entertained at one time by some of the gentlemen interested in the case, but had been strenuously opposed by himself, with, as he believed, fully as great a prolongation of life as would have been likely to follow the excision. The tube used at Dr. Cohen's suggestion, as mentioned by the reporter, was an ordinary outer tracheotomy-tube of the quadrant form, but with the segment of circle continued so as to present downwards instead of forwards as in the usual form of tube, the flange being exceedingly narrow so as to interfere as little as possible with the manipulations. The great advantage of the tube was that the mucus and other matters which might gain access to the tube, whether from the mouth, the trachea, or the lungs, would be coughed out in a direction protecting the face of operator and assistants from the spattering to which they are not infrequently subjected when the ordinary form of tube is used during manipulations or operation.

Dr. SHAKESPEARE said that since he had unexpectedly heard quoted a so-called opinion of his concerning the nature of the laryngeal growth in question, based upon an examination of the earlier scrapings, he reluctantly arose to take some part in the discussion. He felt impelled to disclaim responsibility for the opinion attributed to him. He had been called upon one morning, during office hours, by his friend the reporter, to look at a section purporting to be made from the scrapings of a growth in the larynx. Patients were in the anteroom awaiting consultation; the reporter himself was also in a hurry, and perhaps five minutes elapsed between the time of his arrival and that of his departure. Within this brief period the history of the case was related, the microscope was brought out and arranged, and the section was looked at. Meanwhile, nothing was said of a request of consulting physicians and surgeons for a careful examination and an opinion, which Dr. Shakespeare several days afterwards accidentally learned had been desired, for the purpose of furnishing information which might influence a decision as to whether the grave operation of extirpation of the larynx would or would not be called for.

It was under these circumstances that a mere *hypothesis* concerning the nature of the growth was arrived at, which the reporter, in his paper written for publication, has dignified with the name of "an opinion." Moreover, this so-called "opinion" had been misquoted, no doubt unintentionally, for, even in this hurriedly-formed hypothesis, the impossibility of absolutely diagnosing a morbid growth by an examination of the tissue torn from its granulating surface was both recognized and distinctly expressed. The section thus glanced at unquestionably presented the appearances of granulation-tissue covered by an epithelial surface, and the conjecture then formed and expressed was that the section might have been from a sarcoma with secondary papillary formations upon the mucous surface, or from a papilloma experiencing inflammation, or from almost any other morbid growth with its surface inflamed and covered by granulation-tissue.

He declined to be placed in the position of practically advocating the antiquated assumption that the nature of a morbid growth can be recognized, with any great degree of satisfaction or certainty, from an examination solely of scrapings from the surface. There is nothing more delusive and misleading than conclusions based upon such examinations, even when time is consumed in a careful study.

Dr. Shakespeare could not but deprecate a practice which makes one, often unwillingly, a party to the diffusion of such so-called "opinions" as are arrived at in the careless manner already mentioned. He thought that the injudicious publication of just this class of opinions did far more than any other one thing could possibly do to bring discredit upon the microscope, and to block the way of progress in the science of pathological histology. It was in the highest degree unfair to the person whose so-called "opinion" is cited; it could not fail to be alike dangerous to the suffering patient, and delusive to the consulting physician; it could give little satisfaction to the earnest inquirer, whose chief object should always be the laudable search for truth; and it could only add to the confusion of him who would undertake the labor of drawing from the abundance of published observations the general laws which govern disease.

Speaking of the nature of the growth under consideration, Dr. Shakespeare said that he believed, as all other modern students of pathology believed, that it was utterly impossible to make an absolute diagnosis, by means of the microscope, of the nature of a growth upon a mucous membrane without including in the examination a study of the tissue which forms the base of the neoplasm. He had already spoken of the appearances of the sections from the earlier scrapings. The section placed under the microscope for the examination of the members of the Society, and which he understood to be made from the later scrapings, presented to his eye a perfectly typical picture of epithelioma, with numerous cell-nests or pearly bodies scattered here and there in the abundant epithelial plugs which in the main occupy the field of the microscope. The channels and holes sometimes found in these epithelial pegs, and in many cases filled with granular débris, which Dr. Seiler has singularly described as ducts of glands, he could not recognize as anything else than the cavities which are often found in epithelial accumulations, and which are usually formed by a mucous vacuolation and destruction of a few or a large number of epithelia.

Ulceration and a foul odor in epitheliomatous formations unquestionably are frequent and often early complications. Yet their absence by no means excludes a diagnosis of epithelioma. On the other hand, the presence of epithelial pegs containing cell-nests or pearly bodies can no longer be regarded as absolutely characteristic of an epithelioma, for these onion-like collections of squamous epithelia are not unfrequently found in purely irritative superficial accumulations of epithelial cells in the various locations where these cells naturally exist.

This case, therefore, affords one more example of the impossibility of making a reliable microscopic diagnosis of a growth without an examination of the matrix whence it develops.

Report of the Committee on Morbid Growths.—"A microscopical examination of a thin section made from a portion of the growth removed by scraping the larynx by Dr. Seiler, shows it to be composed of solid anastomosing cylinders or peg-like processes of large epithelial cells; the cells forming the margins of these cylinders are arranged in a very regular manner, and present, in those cylinders which have been cut longitudinally, a somewhat columnar or cubical shape, while in the centre of the cylinders the cells have become larger, more flattened, and their protoplasm has increased in amount, while their nucleus is found to be diminished in size. Upon some of the cylinders the cells are seen arranged in a concentric manner, forming the so-called cell-nests or pearly bodies. Separating the peg-like or cylindrical collections of epithelial cells is observed a fibrillar connective tissue, which presents the appearance of this form of tissue in the various stages of irritation or proliferation, from purely embryonic tissue, consisting of small, round, lymphoid cells without any appreciable intercellular substance, to fully-developed fibrous tissue. From such a histological structure and disposition of elements, your committee are of the opinion that the neoplasm is of an epitheliomatous nature, and may be considered a *lobulated pavement-celled epithelioma.* But it is to be remembered, however, that the examination is made from a scraping of the surface of a growth, and all such examinations cannot be considered either satisfactory or definite.

"January 8, 1880."

REVIEWS AND BOOK NOTICES.

A Treatise on Hygiene and Public Health. Edited by Albert H. Buck, M.D. New York, William Wood & Co., 1879. Two vols. 8vo. Vol. i., pp. 792; vol. ii., pp. 657.

In the "editor's note" prefixed to this work, we are informed that it is intended to take the place of the volume on hygiene published in the German edition of Ziemssen's Cyclopædia, which is adapted only to Germany. It was believed that a treatise on private and public hygiene, written with special reference to the different climates, conditions of soil, habitations, modes of life, and laws of the United States, would meet with favor, not only among physicians, but also among all educated classes. A systematic treatise on hygiene has long been a desideratum in this country, and we believe that few more useful works have been published during the past year than these volumes which lie before us.

Unfortunately, lack of space prevents our giving that thorough analysis of the book to which inclination, as well as its merit, entitles it. We can but give a sketch of its contents, in the hope of attracting attention to the stores of useful information on all subjects which have been gathered by the staff of writers, most of them specialists in the branches of which they treat, whom Dr. Buck has called to his aid in the production of this treatise.

The introduction has been written by Dr. John S. Billings, U.S.A., whose multiplied labors in sanitary matters, and chiefly of late as a member of the National Board of Health, have caused him to be regarded as one of our very highest authorities on all subjects connected with hygiene and public health. Dr. Billings, after some brief remarks alluding to the general ignorance of public hygiene, and the imperfect character of our registration of vital statistics, gives a general sketch of the present state of knowledge as to the causes of disease, including a general view of the germ theory of disease, which is to be particularly commended for its clear and succinct presentation of this subject, which is so difficult of comprehension by those who are not specialists. The latter part of Dr. Billings's introduction treats of the jurisprudence of hygiene, in which he gives a short summary of hygienic legislation in this country, municipal, State, and national, terminating by the addition of a bibliography of the subject.

The remainder of the first volume is divided into two parts: 1, "Individual Hygiene," and, 2, "Habitations." Under the first head are included chapters on "Infant Hygiene," by Professor Abraham Jacobi; "Food and Drink," by Professor James Tyson; "On Drinking-Water and Public Water-Supplies," by Professor Wm. Ripley Nichols; "Physical Exercise," by A. Brayton Ball, M.D.; and "The Care of the Person," by Arthur Van Harlingen, M.D. Under the second head are found articles on "Soil and Water," by William H. Ford, A.M., M.D.; "The Atmosphere," by D. F. Lincoln, M.D.; and "General Principles of Hospital Construction," by Francis H. Brown, M.D.

The second volume is likewise divided into two parts: 1, "Occupation;" 2, "Public Health." Under the first part we find articles on "Hygiene of Occupation," by Roger S. Tracy, M.D.; "Hygiene of Camps," by Charles Smart, M.B., U.S.A.; "Hygiene of the Naval and Merchant Marine," by Thomas J. Turner, M.D., U.S.N.; "Hygiene of Coal-Mines," by Mr. Henry C. Sheafer; and "Hygiene of Metal-Mines," by Rossiter W. Raymond, Ph.D. Under the second part are included articles on "Infant Mortality," and on "Vital Statistics," by Thomas B. Curtis, M.D.; on "Adulteration of Food," by Stephen P. Sharples, S.B.; "Public Nuisances," by Roger S. Tracy, M.D.; "Quarantine" (of sea-ports), by S. Oakley Vanderpoel, M.D., LL.D.; "Inland Quarantine," by S. S. Herrick, M.D.; "Smallpox and other Contagious Diseases," by Allan McLane Hamilton, M.D., and Bache McE. Emmett, M.D.; "The Hygiene of Syphilis," by F. R. Sturgis, M.D.; "Disinfectants," by Elwyn Waller, Ph.D.; "Village Sanitary Associations," by Roger S. Tracy, M.D.; and "School Hygiene," by D. F. Lincoln, M.D. The scope of the work can be perceived by this array of subjects, and we may conclude by pronouncing it a work of reference which should be within the reach of every educated physician.

ATLAS OF SKIN DISEASES. By LOUIS A. DUHRING, M.D. Part VI.—SYPHILODERMA (PUSTULOSUM), ERYTHEMA NODOSUM, SEBORRHŒA, ECZEMA (PAPULOSUM). Philadelphia, J. B. Lippincott & Co., 1879.

In the preparation of this fasciculus, Dr. Duhring has had to contend with unusual difficulties, some of the diseases here represented being among the hardest of all eruptions to delineate faithfully. To say that the obstacles to success have been overcome, and that we have here a series of pictures which challenge comparison with the choicest productions of foreign chromo-lithography, is no more than is merited. Those who have followed the author in his painstaking, laborious, and often disheartening efforts to produce American chromo-lithographs fully equal to those of Europe, find his success peculiarly gratifying, and as each new fasciculus makes its appearance it becomes more evident that this work is to be a monument of which American medicine may be proud.

The picture of *syphiloderma* (pustulosum) is that of a typical case. The arrangement of the lesions, their number, their perfect development, and their form and appearance permit all the characteristic features of the disease to be singled out, and afford, in connection with the text, a good opportunity of studying it in its normal configuration and aspect.

In the representation of *erythema nodosum*, on the other hand, not only are the normal lesions in all their completeness of outline, arrangement, and locality given, but we find some of those less usual and ill-developed patches, which sometimes prove a source of diagnostic embarrassment when occurring alone. This picture commends itself to the artistic sense as well as to the medical. For the colors are so justly modulated as to produce a peculiarly agreeable pictorial effect, as well as to please the critical taste by their close approach to nature.

The plate of *seborrhœa* represents this affection as occurring both on the scalp and on the face, and is an excellent picture of a well-marked example of this affection as it appears untouched by local applications.

In *eczema* (papulosum) the artist has found perhaps the most difficult task which has presented itself thus far in the course of this work. We were inclined at first to criticise some of the lesions as represented, but on comparing the American pictures with those of foreign atlases, it was "Hyperion to a Satyr," and we are well content with the achievement of our compatriot.

THE HEALTHY INFANT. A TREATISE ON THE HEALTHY PROCREATION OF THE HUMAN RACE, ETC. By TANDY L. DIX, M.D. Cincinnati, Peter G. Thompson, 1880.

The "Healthy Infant" is the title of another little claimant for literary favor. It contains much not very original quasi-scientific speculation and some good hints on infant management. The concluding chapters are quite graphic,—the author growing eloquent as he tells what preparations should be made on the advent of sickness, and what may result from their neglect. The room should be cleared of superfluous furniture, so that the attendants may not tumble over chairs and tables on their way down-stairs for mustard and a plate and knife. We have never seen people tumble over chairs under such circumstances, but it is probably a way they have in Ohio. The mother is told to be careful not to state her view of the case to the doctor, because "it is necessary for the physician to arrive at his diagnosis through a process of induction, that he may not only know what the disease is, but also its nature and extent, and he must arrive at a knowledge of these conditions through an analysis of the history of the symptoms and indications of all the circumstances which surround his patient;" but it must seem rather slow work to the mother when she is burning to explain that her darling is choking over a penny or has seated himself on a pin.

"The approach of the physician should be easy and gentle." No stage strut or military march here, but a sort of sinuous and gliding motion is probably intended,—an imperceptible skimming over the carpet, if they have left that down. He is then, on beholding the sleeping infant, to gaze fixedly at the fontanel. Directions are to be given minutely. "Give one of the powders every three hours, . . . and a teaspoonful of the contents of the vial every time the clock strikes;" but their clock may have no striker, or they may go by their grandfather's clock. "Do not disturb him [the doctor] with questions or conversing in the room: such indiscretions have been the cause of death of many infants;" yet a cause that the mortality returns never disclose.

The advice to clean inflamed eyes in the young infant with milk from the mother's breast is antiquated and uncleanly. The treatment of obstructed respiration from coryza is, to remove the mucus from the nostrils with the head of a pin and oil the nasal passages. Where swelling of the membranes causes closure, the author blows through a quill into the nostrils subcarbonate of bismuth and powdered gum arabic; he has never found this remedy fail; but he would undoubtedly find glycerin, if brushed in the nostrils, succeed much better. The minute study of infantile colic, which concludes the book, we commend to the reader. E. W. W.

THE RIVIERA. SKETCHES OF THE HEALTH-RESORTS OF THE NORTH MEDITERRANEAN COAST OF FRANCE AND ITALY, FROM HYÈRES TO SPEZIA; WITH CHAPTERS ON THE GENERAL METEOROLOGY OF THE DISTRICT, ITS MEDICAL ASPECT AND VALUE, ETC. By EDWARD I. SPARKS, M.A., B.M. Oxon., Fellow of the Royal College of Physicians, etc. London, J. & A. Churchill, 1879, pp. 403.

This is a compact, handy, bright little book, that will be read with no small interest alike by the doctor, who wants some exact idea of a region that many of the sick he must send away will select for themselves, and by his patients, who, on starting, seek beforehand some definite notion of the places whose names have been as familiar already as household words.

The author has had the ill fortune to look upon the health-resorts of the Riviera from the stand-point of the invalid as well as that of the doctor, and to this double view, which, like the stereoscope, gives to the single picture made up of two superimposed impressions an unusual depth and fulness, much of the life-like charm of the volume is due.

Limited space forbids the quotation of any among the many practical suggestions and opinions with which a long experience and close observation have enabled the writer to enrich his pages. The whole book is worth most careful reading.

The descriptions of the various places are very graphic and accurate, and the details of expense, choice of location, mode of reaching the stations, and the like, coincide with the recent personal experience of the writer of this notice. J. C. W.

GLEANINGS FROM EXCHANGES.

SIR HENRY THOMPSON ON THE NIETZE-LEITNER ENDOSCOPE.—In a lecture, published in the *Lancet* for December 6, 1879, Sir Henry Thompson spoke of the endoscope as heretofore employed, characterizing it as not capable of rendering much practical service. Resently, however, he had seen, with Professor Dittel, in Vienna, a new apparatus. Of this he says,—

"It is certainly a daring achievement to carry a platinum wire, heated to whiteness, into the bladder, and to use it there for some minutes in the act of research; and it is a marvellous success as regards the mechanical arrangement by which this result is effected with safety. The idea originated with Dr. Nietze, now of Vienna, but its realization is due to the patience and perseverance of Leitner, the surgical instrument maker of that city. I will briefly describe it, and then say, as fairly as I can, what it appears to be able to accomplish.

"The apparatus consists of a stout wooden table, containing instruments, etc. Attached to it is a light stage, several feet high, supporting a vessel of water; and on a frame near the floor is the electrical battery with its appliances. This apparatus is placed by the side of the patient, who should be recumbent on an ordinary operating-table, so as to occupy a height convenient for the purpose of examination. It may be thus used in an ordinary ward, but it is more efficient in a darkened room, like that ordinarily employed for the ophthalmoscope.

"The electrical current is produced by two rather large Bunsen cells, and the positive and negative conductors, two long and slender wires, are attached to a hollow silver sound of the ordinary form for examining the bladder, by means of a movable collar round its handle, one of the wires entering a small channel in the sound itself, which it traverses to the end. Arriving there, it enters a cavity within the beak, and joins a platinum wire there about half an inch in length, the other end of which is soldered to the metal of the sound, and the latter itself forms the connection with the opposite wire or pole. The platinum, which becomes incandescent on the completion of the current, is covered by a glass plate isolating it from lateral contact. Finally, the end of the sound which contains the platinum wire has to be kept perfectly cool by special means adapted to the purpose.

"The means by which this is accomplished consists in the maintenance of a constant current of cold water supplied from a reservoir, containing about two or three gallons, placed seven or eight feet above the operator. The current descends through a small, flexible tube to the collar of the instrument already described, and connected there with two capillary channels in the body of the sound itself. These measure only one millimetre and a half in diameter, and pass through the whole length of the sound, coursing round the heated wire at its termination, so that the water is constantly flowing in by one tube and out by the other, to issue finally, drop by drop, through the returning tube into a vessel placed to receive it. The collar of the sound, then, has four flexible tubes attached to it, two for the electric current and two for the water current. Holding the collar with the left hand, the operator easily rotates the sound with his right, when, on looking through a central cavity forming the axis of the sound, any portion of the organ adjacent to the end of the sound is seen to be brilliantly illuminated. A small piece of gravel, a pellet of mucus, the rugæ and sinuses of the mucous lining of the bladder, of its natural tint, or with an inflammatory injection, may all be most clearly seen.

"As a triumph of mechanical skill over extreme difficulties, it is impossible to admire the performance too much. But it is necessary, on the other hand, to remark that much preparation of the bladder itself is necessary; that some irritation of the organ must be regarded as a highly probable result,—as, indeed, is often unavoidable from the use of this or of any other endoscope. If the urine is bloody or clouded with mucus, nothing is visible; the bladder must be washed, and then be partially distended with clear water or with air, before the instrument can be applied. If the urine is quite clear, no preliminary washing is necessary, and a few ounces should be present in the bladder. I may add that it is very easily used in the rectum, and that it has also been introduced into the stomach without difficulty, which it equally illuminates,—the bladder being the most difficult organ to deal with, on account of the narrowness of the channel which leads to it."

Sir Henry does not regard this instrument as likely to be of use in cases of difficult stricture or retention of urine. On the other hand, to make out the existence of sacculated stone as the cause of persisting and unrelieved symptoms, to detect pedunculated growths and villous disease of the bladder, removable by operation, and to investigate the nature of foreign bodies, other than calculi, which have become lodged there, this instrument is of value.

GASTRIC AND DUODENAL DIGESTION.—M. Th. Defresne has written a memoir on Gastric and Duodenal Digestion and on the action of Pancreatine. The conclusions at which he has arrived are, that the hydrochloric acid of the gastric juice is combined with an organic base which modifies its action and changes its properties. In order, therefore, to study peptic and pancreatic digestion, it is requisite to employ a solution of hydrochlorate of leucin prepared with the gastric mucous membrane. By this means peptic digestion may be compared with that which takes place in the stomach; it is not continuous or illimitable, but it can be filtered, and the residue can be determined. The acidity of the mixed gastric juice in the lapse of half an hour after ingestion is no longer due to hydrochlorate of leucin, but to the presence of lactic, sarcolactic, tartaric, malic, and other acids; and the best test of this reaction is pancreatine, which, after having remained for two hours in pure gastric juice, has no sensible effect upon starch, but after commixture with the mixed gastric juice, and neutralization, will convert seven times its weight of starch into sugar. This difference in the nature of the acidity of the pure and of the mixed gastric juice is rendered more manifest still by artificial digestion of azotized food. If the albumen has been previously macerated in hydrochloric acid, pancreatine, after neutralization of the fluid, only peptonizes five grammes of albumen; but if the albumen be macerated in water an artificial chyme is produced, and the pancreatine after neutralization can peptonize thirty-eight grammes of albumen. Pancreatine, therefore, does not undergo any alteration in chyme, but recovers all its activity in the duodenum; and one gramme of this substance can digest simultaneously thirty-eight grammes of albumen, seventy-five grammes of starch, and eleven grammes of lard.—*Lancet.*

CASE OF COMPLETE RIGOR MORTIS OF BOTH LEGS FOURTEEN HOURS BEFORE DEATH.—Dr. Alfred Finch (*Lancet*, vol. ii., 1879, p. 833) gives the case of a lady of 65, who, after fourteen days' voluntary starvation, had been seized with numbness and loss of power in both legs. On examination, both lower extremities were stone-cold as high as Poupart's ligament. There was œdema. The skin was loose, but had lost its elasticity, so that on taking it between the fingers and pinching it into folds it retained some of them when relaxed. There was perfect muscular rigidity, and the knee could not be flexed with moderate force. No pulsation could be felt in either femoral. A pin thrust in was unnoticed and produced no reflex action. The surface of abdomen was warm, the boundary of sensation and warmth being sharply defined at Poupart's ligament; both completely absent below, but distinct above. There was no loss of power or sensation in the upper extremities, but the fingers were cold and livid. The facial expression was somewhat cadaverous. The whole body was very fairly nourished. The heart-sounds were feeble and slow, pulse barely perceptible at wrist. The breath had a peculiar earthy smell; the tongue was dry and coated with a thin white fur. Notwithstanding the vigorous use of stimulants and restoratives, death occurred on the next day. At the autopsy rigor mortis had disappeared. Extreme fatty degeneration of the heart was found, with atheromatous deposit in the neighboring vessels. The valves were healthy.

TREATMENT OF TRANSVERSE FRACTURE OF THE PATELLA.—Mr. A. Pearce Gould writes to the *Lancet* (vol. ii., 1879, p. 815) giving Macnamara's plan of treatment, with two illustrative cases:

"The first case was that of a hansom cabman, who was admitted to the Westminster Hospital, July 26, 1878, with a transverse fracture of the left patella, the fragments being one inch and a half apart even before effusion into the joint. On August 10 the joint was fully distended; it was found to be impossible to get the fragments in apposition, and Mr. Macnamara drew off the serous fluid from the joint, then subcutaneously severed the insertion of the quadriceps into the patella, and brought the fragments easily into close contact, and fixed them so with strapping, the limb being placed on a straight back-splint. Later on, a plaster-of-Paris splint was adapted. The patient was last seen in August of this year,—rather more than twelve months after the accident; he had long since resumed his occupation, could easily hop on the left foot, and the union, which to all who saw the case appeared to be osseous, was so close that it was very difficult to feel the line of fracture.

"The second case was a porter at the House of Commons, admitted May 9, 1879. Next day the distended joint was emptied by the aspirator, and *serous* fluid drawn off. Mr. Macnamara then subcutaneously divided the muscle as in the above case, and, finding that was insufficient, also divided the ligamentum patellæ, when the fragments readily adjusted. The further treatment was the same as in the above case. There is very close union between the fragments, but it is fibrous, not osseous. The joint is stiff from long use of straight splints; the patella is not adherent to the femur, but moves over it freely. The patient finds his limb so useful that he does his work as well as before, and is loath to enter the hospital again to have passive motion applied."

A NEW METHOD FOR ARRESTING HEMORRHAGE WHEN AMPUTATING AT THE SHOULDER-JOINT.—Dr. Edwin Moore writes to the *Lancet* (vol. ii., 1879, p. 796), describing the following procedure. He says, "In cases of amputation at the shoulder-joint that have come under my observation, I have noticed the chief difficulty of the operation to consist in controlling the hemorrhage attending it, necessitating the aid of a quick and competent assistant. I have twice, in performing this operation, adopted a method which renders it almost a bloodless one. I lay a piece of calico bandage across the chest and upper part of the shoulder, and then fix an india-rubber cord or tourniquet round the shoulder over the bandage: this effectually compresses the axillary artery. In order to prevent the india-rubber cord from slipping, an assistant takes both ends of the bandage and holds them across the chest.

"If called upon to repeat the operation, I would pass a calico bandage under the india-rubber cord, *behind* as well as in front of the shoulder, then tie the four ends together, and thus dispense with the help of an assistant." A sketch accompanies the communication.

MISCELLANY.

MUTUAL ADMIRATION SOCIETIES.—At a recent meeting of the Dublin Obstetrical Society, the President, in his address, referred to the improvement which had taken place in the character of the remarks and speeches made before the Society. A critic of one of the earlier volumes of these Transactions had animadverted rather severely on the tendency towards mutual admiration. He said, "Throughout the book" (that is, one of the Reports) "we are treated to the desultory conversations which followed the recital of each paper on the night of meeting at which it was brought forward. How far the perusal of these usually trite, crude, and vapid remarks may tend to the improvement of the obstetric mind is a question, to say the least of it, problematical. We find a member described as having risen 'to express his *sense* of the value of Dr. ——'s paper.' Another informs the Society that it is, or ought to be, 'greatly indebted to Dr. —— for his able paper, containing so full and complete a history,' etc., etc. 'For his own part, etc., Dr. —— fully concurs in the remarks of the learned author.' One calls another 'the most recent and one of the ablest *exponents* of the modern school of gynæcology;' and, after paying each other compliments and purring together for some time, the most recent exponent of modern gynæcology rises *to return thanks* to the Society for having patted him on the back and stroked him down; and, having patted all his brethren on their backs who had previously caressed him, 'he resumes his seat,' and the Society adjourns. Surely," continues the writer, "all this rubbish might have been omitted. The Report contains thirty passages of it." The publication of these observations only serves as a species of advertisement, and not, either, of the better class of such useful documents.

It is possible that even in this country such proceedings are at times not altogether unknown in the meetings of our learned societies.

TREATMENT OF TÆNIA.—Dr. Stein, of Frankfort, read a paper on this subject at the meeting of German *savants*, in which he states that of all remedies he prefers the *extractum filicis maris*, which has hitherto failed from having been given in insufficient doses. Preliminary treatment is useless and only irritates the animal. The remedy should be given in the dose of eight grammes, enclosed in eight capsules or in Limousin's capsules. The worm is not killed by it, but only stupefied, and it is essential while it is in this condition to bring it away as soon as possible. To this end, calomel should be either combined with the extract or a purgative given the next morning. His method has proved very successful.—*Deutsche Med. Woch.*, November 15, 1879.

NUTMEG-POISONING.—E. R., æt. 36, was delirious; pulse was accelerated and feeble; great prostration; pupils dilated; temperature about normal; stupor. On inquiry, found that about three o'clock that afternoon he had eaten a large nutmeg, and about seven in the evening symptoms of drowsiness and stupor set in, which increased till nine o'clock; thirty drops of aromatic spirit of ammonia, in brandy, every three hours. Strong coffee given freely. Free from unpleasant symptoms, but somewhat weak.—*Homœopathic Medical Times.*

DR. DAVID RICHARDSON, Superintendent and Physician-in-Chief of the Department for the Insane at the Philadelphia Almshouse, has been appointed Superintendent of the Asylum for the Insane at Warren, Pa. He has been connected with the Hospital for the Insane at the Almshouse for about seventeen years, and by his long experience is well fitted for the position which he has received.

INFRINGEMENT OF COPYRIGHT.—Dr. William A. Hammond and D. Appleton & Co. have begun suit against Dr. Allan McLane Hamilton and Henry C. Lea for an infringement of the copyright of the work on Disease of the Nervous System, written and published by the first-named gentleman. Dr. Hammond has commenced suits before, but we never knew one to get beyond the stage of bluster. We wonder if this one means business?

NOTES AND QUERIES.

WINE OF IPECAC IN THE VOMITING OF PREGNANCY.

PROF. H. C. WOOD,
Editor *Philadelphia Medical Times*:

MY DEAR DOCTOR,—Some time since, I saw recommended in a foreign journal, which one I cannot remember, the administration of small doses of *wine of ipecac* in the vomiting of pregnancy. The beneficial result of its use has been so striking in several very obstinate cases that I think it deserves a more extended trial. *Four* to *six drops* of the wine in a wineglassful of cold water, frequently repeated if necessary, will, in many cases, not only check the vomiting, but even relieve the nausea and fulness that precede it. In some cases of dyspepsia, where nausea and epigastric fulness are prominent symptoms, this simple remedy will often give relief. Have you ever used it?

I remain, very respectfully, yours,
JNO. M. KEATING.

January 18, 1880.

DEAR SIR,—Will you do me the favor of inserting these few lines in your much-esteemed journal? I am sorry to find that the translation of my "Manual of Examination of the Eye," by Dr. Swan M. Burnett, of Washington, contains some errors that I cannot allow to pass unnoticed, both for my readers' sake and for my own. I have, therefore, had an appendix printed at my own expense, and have sent it to the editor, Mr. Brinton, M.D., who will be kind enough to deliver a copy to any former purchaser of my work who may desire one, and also to add it to as many of my books as he still has in his possession. Allow me also to add that a "Lesson on Ophthalmoscopic Enlargement," but of which the manuscript arrived in Philadelphia too late for publication, has just appeared in the first number, for 1880, of the *British Medical Journal*. I beg, therefore, those of my colleagues who have my work to apply for this lesson, as well as for the Appendix, either to Mr. Brinton, M.D., Medical Publication Office, No. 115 South Seventh Street, Philadelphia, or to me, 8 Rue de la Bienfaisance, Paris.

I am, dear sir, truly yours,
DR. LANDOLT.

PARIS, December 12, 1879.

THE IMPROVED AUDIPHONE.

DR. CHARLES H. THOMAS, of this city, at the meeting of the Philadelphia County Medical Society held on December 10, 1879, announced that he had been making a number of experiments upon audiphones, and that at the following meeting of the Society he would present some modifications of the original instrument. On December 17 he accordingly presented and explained the audiphone, and demonstrated the fact that a number of substances were better adapted for the purpose than are the original materials. Of all the substances experimented with, the fuller's board (press-board) saturated with shellac varnish gives the best results. In our next issue of the journal an elaborate account of the experiments will appear.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 11 *TO JANUARY* 24, 1880.

TAYLOR, M. K., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him from Headquarters, Department of Texas, is extended one month. S. O. 9, Military Division of the Missouri, January 19, 1880.

TAYLOR, B. D., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at Governor's Island, N. Y. Harbor, as assistant to the Attending Surgeon at Division and Department Headquarters, and to the Post-Surgeon, Fort Columbus. S. O. 7, Department of the East, January 12, 1880.

WORTHINGTON, J. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Grant, A. T., and assigned to duty at Fort McDowell, A. T. S. O. 4, Department of Arizona, January 8, 1880.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 14, 1880.

THE ADVANTAGES ATTAINABLE BY SUCH AN ORGANIZATION AS THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

Being the Address delivered

BY HENRY H. SMITH, M.D.,

Retiring President of the Society, January 28, 1880.

IN accordance with the by-law of this Society, which requires that the President shall, "at the close of his term of office, deliver a public address," I appear before you.

In the performance of a duty which has usually been annual in its occurrence, and with the addresses of former officers yet lingering in your minds, it is not easy to present any subject worthy of your consideration that can offer the claim of novelty.

As the framers of this by-law appear to have ignored the fact of our having a prolific press, that scatters daily among us the sentiments of domestic as well as of foreign societies, but require you to listen to the views of your own presiding officer at a fixed period, I yield obedience to the custom, only suggesting that if the subject this evening presented proves wearisome and unprofitable, the abrogation of the rule which necessitates it is in your own hands.

As appropriate to the present occasion, I might justly offer a review of the papers and acts of the Society during the three years in which I have had the honor of presiding over your deliberations. This, however, has been recently laid before you in the published Transactions of the Society.

Believing that it is useful, both to individuals and corporations, to revise at stated periods their acts of omission and commission, weighing carefully the value of the things done and the things left undone, I now propose for your consideration "The advantages attainable by such an organization as the Philadelphia County Medical Society."

I present this subject with less hesitation, because I trust that a thorough and correct appreciation of its principles will have an ennobling effect on all our members, and promote that "elevation of character and study of the means calculated to render the medical profession useful to the public and subservient to the interests of humanity," which is the object declared in our charter to be the basis of our organization.

The Philadelphia County Medical Society, now composed of two hundred and seventy-five members, is a body corporate, formed by the regular physicians of the city and county of Philadelphia. It is favorably and widely known in the city, in the State of Pennsylvania, and throughout the United States; sending distinguished representatives to all the meetings of the State Society and the American Medical Association. In the latter body it is the only professional organization in Philadelphia entitled to representation in this great medical council of our country.

Founded with the view of stimulating each member to the attainment of the highest development of which a noble profession is capable, as well as of augmenting the usefulness and general benevolence of an organization, our charter directs "that the main object of this Society shall be the investigation of the diseases and remedies presented in our own country, whilst also seeking the avenues of knowledge created by the discoveries and publications of foreign countries. At the same time the Society is directed to labor to elevate the character and protect the rights and interests of its members, and to study the means calculated to increase the public utility of this body."

To carry out these objects, none but regular physicians, graduates of a respectable medical school at least one year before nomination, and also engaged during one year in the regular practice of medicine in Philadelphia, can be named for membership; and the result has been the creation of a power whose influence for good is felt both in and out of the profession. If the old proverb is true, "ex collisione scintilla," it is evident that the assembling together of the experience and talent that have long characterized the physicians of Philadelphia and made her medical schools celebrated throughout the world, must elicit an amount of mental scintillations that will not only warm and stimulate an *esprit du corps*, but also enlighten the community on various sanitary and humanitarian measures.

To belong to such a body; to participate in its discussions; to bear its test of professional scrutiny as to the true value of our professional qualifications; to listen to the words of the wise and fathom the depths of their knowledge, is a privilege that cannot be too highly estimated by all, and especially by our younger members. The latter also benefit by the opportunities afforded them of exhibiting their own attainments.

An ignorant and undiscriminating public may be led accidentally to estimate highly the professional qualifications of the medical aspirant for public favor; but there is no opinion of a court of judicature more likely to weigh and define the true value of his skill and knowledge than that given by his County Society, after listening to a paper of his own selection, or testing his professional knowledge in the sentiments elicited and criticised within the limits of a courteous and well-regulated debate.

Admitting that such tests show and magnify the honor held by a member of the Society, how much greater is that honor, and also responsibility, accepted by him who becomes an officer of such a body! Partiality from social intercourse, or the wish to compliment a friend, may perhaps place an undeserving member in a prominent position; but if he possesses no fund of medical acquirements, or is wanting in a high estimate of professional duty, all the enthusiasm of his partisans cannot sustain him in the execution of acts which will be weighed in the balance of a well-poised medical mind, and tested by honesty of purpose and an unselfish devotion to the promotion of the great interests of our Association.

By such tests all should be judged; and happy indeed may he be esteemed who is able to sustain such a scrutiny and receive the approval of his fellow-members.

Impressed apparently with this high estimate of the duties and honors entailed upon membership in our Society, the framers of its bylaws surrounded every proposition of a candidate with stringent requisites. "The place and date of his graduation in medicine, and his term of practice and residence in Philadelphia, must be stated under the signatures of three members who have a personal knowledge of his professional qualifications as well as of his moral character."*

To give additional weight to the honor shown in his election and exhibit to the Society his true worth, every such proposition must also be approved and recommended by our Board of Censors, men specially appointed as guardians of the professional honor and character of the Society, and then, after their recommendation is adopted, the candidate must receive two-thirds of the favorable votes of the members present at a stated meeting at which there are at least twenty members, the result being officially announced by our President.

Guarded by these preliminaries, the candidate subsequently enters the Society on the introduction of the presiding officer, to whom he makes a solemn and public pledge "to use his best endeavors to promote the objects of the Association." These objects, as has been before shown, are of the most elevated and ennobling character; and it behooves each member to recall his initiation vow and advance as far as possible the interest and active development of this organization. If every one would constantly observe his pledge and correct the tone of those who wish to decry the value of the Society's labors, perhaps because jealous of its claims or fearful of its power in restraining them from unprofessional acts, the importance of this Society as a governing element in the profession in this city, as well as elsewhere, would soon be distinctly and widely recognized.

As a correct appreciation of the extent of a subject tends greatly to its proper study and comprehension, our County Society adopts the Code of Ethics of the American Medical Association as a part of its regulations, and makes it incumbent on every member to observe it. A brief reference to some points in that Code cannot, therefore, but prove useful in connection with our present subject. Starting with a description of the duties of a physician to his patient, the Code says "his mind ought always to be imbued with the greatness of his mission and the responsibility he habitually incurs in its performance." These obligations, it goes on to say, "are the more deep and enduring, because there is no tribunal other than his own conscience to adjudge the penalties of carelessness and neglect. Hence he should recollect in every case that the health and lives of those committed to his care depend on his skill, attention, and fidelity."†

Whilst acknowledging the correctness of this obligation, few of us perhaps perfectly realize the high estimate and tone that is essential to its full acquisition and development. I quote, therefore, the following able remarks of the late Dr. Latham, of London, as given in his clinical lectures at St. Bartholomew's Hospital. Speaking of the necessity of physicians devoting their *entire* study to the disorders of the human frame and making these their sole and continual care, he says, "Is it possible for any one to feel an interest in a subject like this?

"Ay indeed is it; a greater, far greater interest than ever painter or sculptor took in developing the form and beauties of its health.

"Whence comes this interest? At first, perhaps, it does not come naturally. A mere sense of duty engenders it, and still for a time a mere sense of *duty* must keep it alive; but presently the quick, curious, restless spirit of science enlivens it, and *then* it becomes an excitement, a pleasure, and the deliberate choice of the mind.

"When the interest of studying disease and of attending the sick has reached this point, there arises from it, or has already arisen, a ready power of discerning diseases, with a skill in the use of remedies.

"And the skill may exalt the interest, and the interest may improve the skill, until, in time, experience forms the consummate practitioner. But does the interest felt in attending the sick necessarily stop here? The question may seem strange. If it has led to the readiest discernment and the highest skill and formed the consummate practitioner, why need it go further?

"But what if humanity shall warm it? Then this interest, this excitement, this intellectual pleasure, is exalted into a *principle*, invested with a moral motive, and passes into the heart.

"What if it be carried still further? What if Religion should animate it?

"Why, then, happy indeed is the man whose mind, whose moral nature, and whose spiritual being are all harmoniously engaged in the daily business of his life, with whom the same act has become his own happiness,—

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* Article I. of By-Laws.

† Code of Ethics.

a dispensation of mercy to his fellow-creatures and a worship of his God."*

Such a combination of qualifications, and such an estimate of them, though difficult of attainment, should be the aim of every high-toned physician, and a society formed by such men, properly organized, becomes of itself a powerful means towards its accomplishment.

In the study of diseases, as illustrated by the papers read by our members, and in the sentiments expressed in their discussion by other well-trained minds, there is certainly an influence exerted that only requires to be thought of, in order to realize its high value. When in addition to this purely medical force there is exhibited the warmth of the humanitarian principle, shown in the labors of those who not only study diseased action, but also endeavor to prolong the lives of their fellow-citizens by preventing the development and spread of all forces likely to prove injurious to health, it follows that such an organization must exercise a most beneficial influence on the creation of a high moral and professional tone in its members, as well as on the community generally. Whilst our Code of Ethics endeavors to excite a clear comprehension on the part of physicians, and consequently of our County Societies, of the importance of their duties to their patients, it also strives to define with equal accuracy "the duties of patients to their physicians," a reciprocal action necessary to the proper development of their relative positions. It is, however, a singular fact, and one greatly to be regretted, that all these wise expressions of the obligations of patients to their physicians should remain entirely unknown to patients, though carefully studied by ourselves.

Why no means have been resorted to by the profession to extend this information to those for whom it is especially intended, is difficult to explain. Opportunities are not wanting, in medical addresses before the public, in the introductory or valedictory discourses of our medical schools or medical convocations, the proceedings of which are often fully printed in our daily journals, to enlighten the community on a subject in which they have so vital an interest. So natural and full of common sense are the expressed obligations of patients to their physicians as stated in the Code of Ethics, that every one will admit it. Starting with a reference to the many important duties towards the community enjoined on physicians, and their sacrifice of comfort, ease, and pleasure for the welfare of their patients, this Code clearly shows that "patients should entertain a just sense of the duties due their physicians, especially in selecting for this important office one who has received a regular professional education."

"In no trade or occupation," says the Code, "do mankind rely on the skill of an untaught artist; and in medicine, confessedly the most difficult and intricate of the sciences, the world ought not to suppose that knowledge is intuitive."†

Though this is so true that no sensible person will deny it, how seldom is it observed by the masses who require medical aid! Quackery in all its forms is rampant everywhere, and remedies are vaunted as "cures" with a boldness of assertion highly characteristic of ignorance. Why is this? Simply because quackery subsidizes the press, and by advertisements and handbills calls public attention to its cures and the certificates of those whom it has already duped.

Now, what is the profession doing to counteract this open attack upon its claims to public consideration? Absolutely nothing. It gives, as we have seen, excellent advice to patients in our Code of Ethics, but it never presents this Code to the public, so that the section is about as useful to the community as if written in Chinese characters. Who will deny that a patient should confide the care of himself and family to one physician, when we know that he who has become acquainted with the idiosyncrasies or habits and dispositions of those whom he attends is more likely to be successful in his treatment than one who does not possess this knowledge. Yet how often is the apothecary first consulted, and the patient prescribed for over the counter by one who perhaps has never seen him!

So far have the public departed from their duty, as wisely laid down in this portion of the Code, that, instead of confiding to one physician, it is not uncommon for two or more to be in attendance in the same family,—each ignorant of the fact, that the patient seeks a "head or nervous doctor for his brains, another for his eyes or ears, and another for the womb, etc., until, as has been jocosely said, the public have now a doctor for every portion of the human frame except the navel." Admirable as are the sentiments published in the Code on the "duties of patients to their physicians," it must be admitted that they are and will be of little practical utility until the profession, through its County and State Societies, finds some judicious mode of scattering broadcast among the public the information intended for its especial benefit. This subject is one worthy of your consideration, and its discussion cannot fail to elicit some wise plan of accomplishing this important object. Suppose, for example, our "Committee on Hygiene and the Relation of the Profession to the Public" suggest a plan, and that our County and State Society approve and forward it to the American Medical Association for its action, and then each member circulated this part of the Code among his own patients under the authority of the Association, would it not benefit the profession, and warn the public against the selfish and ignorant pretensions of quackery in its various forms? May we not hope that some consideration will hereafter be given by the profession to this subject, and that our County Society may show its power by calling the attention of other bodies to a measure that involves the life and comfort of every citizen?

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* Collected Works of Dr. Latham, vol. i. p. xxii., New Sydenham Society.

† Code, Art. II. Sect. 2.

In another portion of the Code we read, under the "duties of the profession to the public," "that as good citizens it is the duty of physicians to be ever vigilant of the welfare of the community, and to bear their part in sustaining its institutions and burdens." This is also one of those portions of the Code that appear to be one-sided in their application, and has entailed so serious a wrong on the medical profession that it is the duty of medical societies to attempt to remedy it. Aware of the benevolent spirit that characterizes our profession, the public have not hesitated to impose on it "heavy burdens, and grievous to be borne," until at last there is some evidence of a revolt, and of a disposition to keep professional benevolence within reasonable limits. The abuse of medical charities is a subject now engaging attention at home and abroad, and as one of the committees of this Society have recently participated with other societies in a public meeting to discuss the subject, we may soon hope to hear of some plan that will create a change in public sentiment on this question. At the meeting alluded to it was stated that "it may be justly concluded that two hundred thousand of our citizens annually receive gratuitous medical aid, and that in London, in 1873, one million two hundred and eighty-eight thousand persons received gratuitous advice and medicine."* This surprising amount of medical charity has long attracted the attention of thinking men in England, and has from time to time been the subject of special notice by well-known writers. Dickens, the graphic delineator of so many admirable life-like portraits of human infirmities, especially as exhibited in the trials of the poor under the poor-laws of English towns and villages, was not insensible to the conduct of medical men in his own country in connection with this subject.

In his "Household Words" he describes, with admirable detail and a beautiful contrast of the charitable spirit of the profession as compared with that of the representatives of the moneyed public, the actions of physicians and so-called guardians of the poor. Under the head of "Medical Charities among the Poor" he says,—

"The whole mass of the poor in this country [England] is thrown upon the almost unassisted charity of the medical profession.

"No burden in any degree resembling it is sustained by any trade. The public knows little of the real position in which the sick poor stand in reference to their medical attendants, because medical men, as a body, bear their burdens manfully, and accept the care of the poor as an incident of their calling, rarely expressing their discontent, and then oftener at the want of thanks than at the want of money. The members of the medical profession respond freely to the appeals made to their humanity, striving quietly and heartily to do their duty and make the best of their position."

Then, in order to give additional life to his picture, and contrast the benevolence of medical men with the traits shown by others, who talk loudly of their charities and their devotion of their time to the relief of the poor, he says, "Compare the action of medical men with that of others in the world,—as, for example, Mr. Souchong (the grocer), who supplies 'tea to the poor' in ounce packages, and not always in the state in which it left China; or Mr. Sirloin (the butcher), who sells them chips and fragments of meat at a good profit; or Mr. Wick (the chandler), who gets the half-penny out of the poor man's penny candle.

"These men may hold up their hands and exclaim against the hard-heartedness of the doctor, who meanly connects thoughts of the sick poor with thoughts of his own day-book and ledger. Of course, doctors are hard-hearted; Mr. Souchong, who is a poor guardian, knows it, and he says so."

Who of us, who know the way in which contracts are given out to furnish supplies to our institutions or to expend the money of cities in the service of poor-districts, can fail to recognize the truthful resemblance of this delineation of so-called charities to the poor and the noble position held by the medical profession in aiding in dispensing them?

All are now commencing to recognize the truths thus expressed by one of the most graphic writers of our age, and our medical journals at last have begun to complain of the injury done to the profession by a greedy public, whose primary idea, in their benevolent institutions, is the mean one of obtaining as much service as possible from their medical staffs at the lowest cost, or, more frequently, for nothing. Contributors to dispensaries and hospitals not unfrequently, it is said, obtain medical advice for members of their own households, as participants of their so-called charitable contributions, and hospitals have been reported as receiving twenty-five dollars per week for board and medical attendance on their patients, all of which goes into the treasury of the *charitable* institution, whilst they claim the free services of their medical staff on the plea of its charity.

As a recent journal has justly said,† "so much medical service is rendered gratuitously by our profession that it is hard to convince some people that it is worth anything. The system of 'dead-heading' for clinical, dispensary, and hospital material has developed itself into a science that is now better understood by the patient than by the doctor." That it is *not* so understood in all its results by many doctors is apparent from their anxiety to obtain any dispensary or hospital appointment that becomes vacant, even when they know that the duties of the post can only be performed by the sacrifice of several of the best hours of the day, and this without, as they also know, the slightest emolument.

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* Dr. Gross, as reported in Philadelphia Sunday Times, January 25, 1880.

† New York Medical Record, vol. xvii., No. 1, p. 14, January, 1880.

So marked is this professional tendency at the present day, that the managers of these institutions, in some instances, regret the resignation of a physician on their staff, not from the loss of his valuable services, but because it exposes them in their homes and on 'Change to the annoyance of the repeated solicitations of the candidate and all his friends, in their anxiety to secure their favorable vote for an unsalaried office.

Our Code of Ethics, with its lofty principles and benevolent intentions, has apparently misled our profession, or it has been misinterpreted by those who, whilst desirous of giving their charity to the deserving poor, overlook the fraud practised on the profession by men who are justly entitled to be classed among the rich. As the laborer is worthy of his hire, no maudlin sentiment should be permitted to rob the worthy physician of the remuneration to which his talents and education, as well as devotion of time and labor, justly entitle him, and which, if he insisted on it, he would soon receive. The public require instruction on their relative duty to the profession, and the profession owe it to themselves to assert their estimate of the value of their services by refusing to give them for nothing, or should refuse to seek offices which are not paid. Those who supply the food of patients in hospitals are fully paid; why should not those who direct the administration of their medicines be equally remunerated? The power of our organization can readily be shown if our members will give this subject their careful and judicious consideration. The abuse of medical charities, and also of medical men, is a question that should not be permitted to rest without decided action by this body.

The influence of our Society upon the humanitarian efforts of the citizens of Philadelphia has also been frequently shown during my late term of service, and has, I am happy to say, been frequently recognized by our citizens.

In the action of the "Citizens' Association for the Prevention of Vice and Immorality," the support of the Society in their efforts to preserve the morals of the young and to restrain their passions,—to prevent ante-natal murder and punish its agents, as in the case of the notorious Madame Restell,—has been freely given and most favorably received; a noted instance of the latter being the action of the Protestant Episcopal Bishop of Pennsylvania, who cordially endorsed the action of this Society in one of his annual addresses to the clergy of his diocese. In the act of incorporation of the "Society for the Prevention of Vice and Immorality," your recent president and two other members of this Society were selected by your fellow-citizens to serve as corporators in organizing the movement, so that they might have the benefit of the extended experience obtainable through the action of the Philadelphia County Medical Society. Another humanitarian and sanitary measure in which our Society has participated was shown by the reports of our Committees "on Hygiene and the Relation of the Profession to the Public," "on Infant and Adult Hygiene during the Summer Months," "on Drainage and the Effects of Garbage," and "on Myopia in our Public Schools," in which over seven hundred and forty-five pupils, or one thousand four hundred and eighty-nine eyes of school-children, were examined and prescribed for, an average time of twenty-six minutes being spent in the examination of each pupil.*

In presenting to the profession the new views of Professor Brown-Séquard on Paralysis and Convulsions, as so ably described by himself in his lectures before this Society; in the laborious and careful revision during several months of the Pharmacopœia of the United States for the convention that is to assemble next May in Washington, this Society ably performed a part of its mission. In the obtaining of the necessary legislation at Harrisburg to compel registration of the regular members of the profession and protect the public from the evils arising from quackery this Society also took an active part.

It may prove instructive to some to know, in this connection, that this registration of physicians is but the revival of an old practice, and to note how the same vices and virtues show themselves to the student of history as being reproduced or revived, with occasional modifications, in every age. Those who regard the acts of the public and the medical profession at the present day, on this and some similar questions, as novel and progressive, will perhaps be surprised to learn that the same spirit of registration and the same efforts to destroy the many-headed Hydra of Quackery, whether in or out of the profession, are plainly recorded by the historian as far back as 292 B.C., and that the old Romans, whilst exhibiting their æsthetic culture, were also watchful of the development of proper means of obtaining the "mens sana in corpore sano." Thus, Pliny, at the beginning of the twenty-ninth Book of his Natural History, says,—

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* Dr. Risley, Chairman, in MS.

"Under Nero the medical profession became organized; an upper class of physicians, called the archiatri, being created, among whom the body-physicians of the emperor (archiatri palatini, or court physicians) and the archiatri populares held distinguished ranks. The former were among the most important of the court officials, their title being *spectabiles.*

"After the time of Antoninus Pius, a certain number of the *archiatri populares* were appointed in each town. They were elected by the citizens, and examined by the college of the archiatri. They received a salary from the city, besides being exempted from all taxes, in return for which they were bound to attend the poor gratis.

"Medical men were at this period classified as physicians (medici), surgeons (medici vulnerum) or chirurgeons, and oculists (ocularii or medici ab oculis), the names of the oculists, etc., of the empress Livia being found in her columbarium.

"Besides these, we hear of dentists, specialists for the diseases of the ear, lady physicians [now called women doctors] for the diseases of their own sex, midwives, and assistants (intraliptæ), whose chief business was to *rub* patients with medicinal ointments." Now we call them "rubbers," and their practice "massage." "Mention is also made of the numerous sellers of 'Oriental salves' [now called Pond's Extract, etc.], who added their share to the grand system of quackery that then prevailed in Rome."

The ancient Egyptians had also a custom, which, perhaps, may yet be adopted by the so-called "progressive people" of the nineteenth century, but which, strange to say, has as yet attracted but little attention, though described in Sir Gardner Wilkinson's great and well-known work on "The Manners and Customs of the Ancient Egyptians," viz., the cure of diseases that baffle the skill of the physician, and where all hope of recovery is lost, by offering (ex votos) in the temples a certain sum for success in the cure. "In the case of children, this sum was settled by giving a weight of silver equal to one-half or one-third of the weight of a portion of the hair shaved off the child's head for this purpose." What a wide field of usefulness is thus opened to such anxious mothers as deem themselves wise in their generation, and advocate in every place the great advantages possessed by homœopathy over all other means of treating disease, and especially those of children, in consequence of its simplicity and safety, as well as its adaptation to their innocent tastes! What a charm exists in their expression of its being only "sugar of milk"! Who can doubt the benefit that would result to both mother and child from this Egyptian sacrifice of curly locks? How attractive is the simplicity of this plan of cure! and how well is it calculated to relieve maternal solicitude in reference to the wisdom of "the old-school practice," and the securing of the child against the errors of the allopathic system with its nauseous drugs!

But I fear to weary you by a too extended reference to these points, the fact being patent that the complaints of physicians against quackery, and the tendency of the public to exhibit its credulity, have existed in every age. The so-called novelties and improvements of the present day in medicine, and particularly in that subdivision of it designated as specialties, are but a recoinage of the words and customs that were generally recognized many centuries since. Ancient specialists, like those of 292 B.C. as just described, did not, so far as is known, progress as rapidly or claim as much skill in diagnosis as the moderns, if we can credit the wonderful examples recently noticed. Thus, a writer in the *New York Medical Record* ludicrously portrays the tendency of some writers to boastful experiences, and the tendency of special studies, when not well regulated, to develop an exaggerated estimate of individual ability, in comparison with the general knowledge possessed by him who is *only* a physician.

"I found," says this imaginary specialist, "that by attaching an ophthalmoscopic mirror to the extremity of a speculum I could direct the light to the internal os uteri, and then discovered that a very large majority of obscure cases of female disorders were traceable to a slight abrasion of the mucous membrane (or endometrium) at this point. . . . I related *five* cases in point by way of illustrating this condition. . . . By devising an apparatus that extended around the buttocks and into the hollow of the back, I succeeded in securing spermatozoa in any part of the Fallopian tubes. By this means I reported that I was able, by examining the spermatozoa microscopically, to determine whether or no the patient's husband was predisposed to cancer, phthisis, impotency, neuro-asthenia, or insanity.

"In nine hundred and thirty-six cases which I had the opportunity of examining for suspected cancer, I found eighty-five per cent. had a granular degeneration of the tail of the spermatozoa, corresponding in position to the fourth dorsal vertebra. The result of these cases was so surprising, that I next attached a microscope to the mirror, which, when advantage was taken of the hydraulic pressure of the bladder, could be so operated that the tissue of the ovary could be examined *in situ.* . . . At the risk of being considered too enthusiastic in my claims for the utility of this instrument, I described other cases to which it was adapted, and stated that with slight modifications it could be used for the rectum, urethra, ear, throat, and with the Fallopian attachment had been employed in exploring the Eustachian tube and viewing the tympanum from the inside."*

Whilst we see in this amusing delineation of a so-called discovery a distant resemblance to some real reports of cases and instruments of a wonderful character, may we not be advantageously warned against the tendency of a practice in specialties that will make dangerous progress towards evil results unless counteracted by the common sense and decided action of the general practitioner, in opposition to the implied superiority of the specialist over his supposed ignorance?

Special studies, especially with the aid of the microscope, have greatly advanced the cause of general science, and in the departments of histology and pathology have certainly promoted the progress of sound treatment in all diseases. The evil alluded to is the result, not of that true scientific investigation that indicates "a love of science for science' sake," but is the evidence occasionally noted in specialists of ignoring the knowledge and acquirements of those who are proud of being designated simply as physicians or the students of nature (*φυςις*), men who recognize that the disorders of any one organ, whether eye, ear, brain, or womb, are closely dependent on the healthy or unhealthy action of the whole system. So generally is this fact recognized among physicians, that it is difficult to understand how any specialist can judiciously treat a single organ, unless perfectly able to treat those of other organs at the same time.

The evils likely to arise from a division of the science of medicine into numerous specialties are those developed by the undue importance attached by some specialists to particular symptoms. If benefit is to be derived by the public from the present fashion of specialties, it can only be wisely obtained by them in consultation with the general practitioner, or with him who has heretofore been known as the "family doctor." In connection with the question of the advantages and disadvantages likely to arise from too great prominence being given to specialties in our Society, I commend to your notice Section 3, Article XI. of our By-laws, as showing that this Society, in the arrangement of the business of a conversational meeting, recognizes the benefit to be derived from the increase of the general knowledge of our members, by inviting "the relation of individual cases, the details of personal observation, the exhibition of morbid specimens, etc.," as well calculated to lead to the study of general questions in medicine, and, by the discussions such histories naturally create, to exhibit the knowledge and experience of all present at the meeting. The paper of the evening, no matter what its subject might be, or what discussions it might lead to, was not intended to occupy all the time, but the relation of individual experience was evidently asked for, in order to post all present on the prominent disorders of the day, or the peculiar views of the debaters in regard to either the treatment of disease or general hygiene. On the occurrence of an epidemic, or as a premonition to members of the prevalence of a certain class of cases, such histories are eminently more useful than specialties in any form can possibly be to the general practitioner, or those who form the bulk of our members.

The advantages derivable from an organization like that of this Society have also been illustrated in a marked degree during the last three years by the incorporation of our Mutual Aid Association, the adoption of its well-digested by-laws, and the promulgation throughout the city and throughout the State of the opinions and wishes of our members in connection with a charitable movement that has for its object the relief of sick members, as well as a provision for the support of the families of such as are left in want by the death and other misfortunes of their natural protectors. Charity, that great virtue that hides a multitude of sins; charity, the virtue that never faileth, has been so fostered and directed under the judicious influence of our County Medical Society, that already it promises to take a firm root on our affections, and yield to our destitute brothers, at some not distant day, precious and abundant fruit. Although but a comparatively brief period has elapsed since its foundation, the Society already numbers among its members those whose energy and benevolence insure its success.

With the preliminary steps that led to this organization within the circle of our own Society, and with the contributions of those whose charity led to the creation of a fund that will eventually relieve the wants of our sick members and protect the widow and orphans of those who die without being able to make proper provision for their support, most of you are familiar. It has been the painful duty of your late presiding officer to recognize distressing cases of decided poverty among the families of some who were once the active members and bright luminaries of this Society, and the response made by many of our members to his suggestions for the relief of such cases has been one of the most agreeable results attendant on the performance of the duties of his office. Experience has proved that such a mutual aid association must be restricted and regulated within the bounds of our own Society. It has been already shown that great care is exercised in the election of the members of our County Society, and without this or similar protection any aid association would be exposed to endless difficulties in escaping the claims of those who wished improperly to avail themselves of the benefits derivable from such a charity. Now, when none but those who have passed the scrutiny of our Board of Censors can be eligible as members of the Mutual Aid Association, we may reasonably hope to escape from the evils with which similar associations in other places have had to contend.

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* New York Med. Record, vol. xvi., No. 15, p. 357.

Under the restraints and limits of our carefully digested By-laws, it is hardly possible for your charitable donations to be expended except on worthy objects. The judicious watchfulness of the Committee on Benevolence of the Association renders it very certain that every case of want will be thoroughly investigated, with a tact and delicacy of feeling that will save the sensibilities of the wives and children perhaps of some now present. Look to the past records of the membership of this Society, and let no one pride himself on being beyond the possibility of needing for his dear ones the fostering care of his brother-members when he lies buried beneath the verdant sod.

How pleasant it is to think that with the trifling sum paid now, with but little self-denial, to constitute each one of you a life-member of the Mutual Aid Association, we are likely to accumulate a fund that in a short time may shelter, as is now done in New York, seven or more widows and as many orphan children until they are sixteen years of age! Ninety more subscribers of fifty dollars each will give to our Association the means of disbursing immediately such relief as may be promptly required by any of our sick members whose limited incomes make them dependent on their daily services to others. Can we reasonably doubt that it will be contributed, when we think of how many, in the near future, will bless each day the sacred spirit of charity evolved by the organization of our Mutual Aid Association? How pleasant to anticipate that each evening the daily prayer of the widow and fatherless of some now among us will be uttered in thankfulness for the forethought and benevolence of the Philadelphia County Medical Society!

Gentlemen, it needs no fancy to color this picture, it needs no eloquence to impress each one of you with the obligations that such a charity imposes. Every father will understand, without being told, the incalculable blessings that may spring from this recent organization of our professional benevolence. To you who hear me, as well as to every member not present this evening, belong the sacred duty and pleasure of seeing that the funds of this noble charity are not permitted to fail. Small though the seed may now be, it is cast upon a warm and generous soil. It rests in your hearts, and, if tended by your wise and judicious care, must eventually develop a tree of benevolence, that, like the mustard-seed of the sacred parable, shall gather under its sheltering branches many an orphan child or widow now warmed and cherished under the paternal roof. May God bless the enterprise and give it a success commensurate with its merits!

Last, though not least, among the advantages derivable from the organization of our County Medical Society, has been the establishment of our library. All of you must have sometimes felt the necessity for easy reference to a good medical library; and though many of our members have access to other collections, yet I think all will hail with pleasure the additional facilities offered by our Society, in a collection that promises to present an opportunity of consulting the older authors. The present age of books—like the poor—is always with us, and the so-called novelties of the day attain a size that is often reduced by the reference to the writings of a past generation. As our library will grow chiefly from the donations of our members from their private collections, it will eventually be specially useful by furnishing treatises connected with the past in medicine. Already the wheel of fashion is revolving towards the practice of the eighteenth century, and the student who wishes to be posted in humoral pathology, and the necessity or advantages of blood-letting in certain cases, or on the former opinions of quarantine, and the etiology and treatment of yellow fever or diphtheria, will have to read such volumes as constitute the bulk of our library.

To the diligent efforts of our librarian we are indebted for the arrangement of, and facility of access to, these books; and it only remains for our members to second his interest in the library to insure its attaining an extended number of volumes.

In conclusion, gentlemen, permit me to urge on you increased efforts to illustrate and magnify the benefits derivable from our organization as a County Medical Society, by showing the kind of work it can accomplish when judiciously exercised. You all know the value of the papers constantly presented at our conversational meetings through the labors of our directors. The increased attendance on each evening shows that they are widely appreciated. Remember, however, that though the number of our members is large (two hundred and seventy-five), they constitute only about one-third of the regular physicians of Philadelphia, and that there are, therefore, very many who do not participate in the benefits derivable from our organization. Many of these can give as well as receive instruction, and all can participate to a greater extent than is now done in our discussions.

These discussions are often especially instructive, by furnishing the experience and varied opinions of the speakers, all of whom endeavor to contribute to the general fund of information elicited by the paper of the evening. As the subject of each paper is announced on the printed call for the meeting, every member should come prepared to participate in its elucidation. It remains also for our members, with a true missionary spirit, to urge upon their professional friends not only the advantages derivable, but also the obligation entailed on every physician in Philadelphia to contribute his mite to that fund of information which, as displayed in our published Transactions, shows that the Philadelphia County Medical Society is fulfilling its mission in contributing to "the knowledge of all subjects pertaining to the healing art, and that it thus labors to lessen human suffering."

Gentlemen, I thank you for the courtesy extended to me in the unusually long period with which you have seen fit to honor my humble efforts to maintain the dignity and usefulness of our Society. If I have been able to accomplish this in any degree, it has been mainly the result of the hearty responses made by the members to the suggestions or efforts of him who, in now retiring from the chair, leaves the helm of the Society in experienced, vigorous, and capable hands.

ORIGINAL COMMUNICATIONS.

PUERPERAL SEPTICÆMIA, CHIEFLY AS OBSERVED AT THE PHILADELPHIA HOSPITAL.

Read before the Philadelphia County Medical Society, December 10, 1879,

BY W. H. PARISH, M.D.,
Visiting Accoucheur to the Philadelphia Hospital.

THE following paper is based chiefly on cases occurring in the Philadelphia Hospital between January 1, 1870, and December 1, 1879, a period of about ten years. They are arranged in the books of the White Obstetric Wards, under the headings of Puerperal Fever, Septicæmia, Pyæmia, General Peritonitis, Pelvic Peritonitis, Pelvic Cellulitis, Metritis, Phlegmasia Dolens, and Erysipelas. The sum total of these cases is one hundred and eighty-one, of which there have been eighty-eight cases of puerperal fever, eight cases of septicæmia, two of pyæmia, thirty-five of general peritonitis, five of pelvic peritonitis, twenty-eight of pelvic cellulitis, six of metritis, six of phlegmasia dolens, and three of erysipelas. I have studied all recorded cases of these diseases, because I believe that nearly all such conditions occurring in the lying-in woman either originate in septicæmia or are modified in some part of their progress by septic influences. That puerperal inflammation and fever do often originate in traumatism cannot be doubted; and I further believe that such fever and inflammation may progress to resolution and recovery without the patient necessarily becoming septicæmic. Yet if the traumatic inflammation becomes more than moderate in degree, the probability of septic poisoning becomes great, and especially if the patient is an inmate of a lying-in hospital. Another reason why I have placed these cases together is my belief that if a puerperal patient has a traumatic inflammation, the septic poison rapidly develops in her genitals, and though she herself, by reason of the non-absorption of the poison, may escape septicæmia, yet the septic material may be transferred from her genitals to another lying-in patient, and this one may have puerperal fever or septicæmia though the original patient has not had such a disease.

I believe the cases occurring in the hospital bear me out in saying that whenever a series of cases of severe traumatism occur in the lying-in wards, following such there occur cases of pelvic cellulitis, of general or of limited peritonitis, of metritis, of phlegmasia dolens, which cannot be explained by the character of the labors, and which must have originated in some extraneous cause. This cause often is, as I believe, the septic poison that has been generated in other patients that have been ill with traumatic inflammation. And, moreover, when there are occurring cases of such inflammation, I am always apprehensive that soon well-marked and virulent cases of puerperal fever will appear; and, if I am not mistaken, such a sequence is the rule. I will go further, and state that I believe that I have seen a most fatal endemic occur in the wards because of the poison generated in a fatal case of traumatic puerperal peritonitis. To illustrate, by reference to detailed statistics and to a period when I had individually an opportunity of observing the cases: the record shows that in January, February, and March of 1874 pelvic cellulitis and pelvic peritonitis were of unusual frequency, twelve cases of the former and five of the latter being so registered on the ward books, and a number of milder cases were not recorded. Of those first occurring, nearly all seemed due to the severity of the labors, while most of those occurring in March could not thus be accounted for. During these three months but one case of puerperal fever occurred. Then came in

April six cases of puerperal fever. At other times, too, I have noticed puerperal fever to be preceded by cases of limited pelvic inflammation. Again, there have appeared in the wake of puerperal fever cases of seemingly, but only seemingly, local inflammations. Endemics of puerperal fever have not disappeared abruptly, but rather by gradations through cases of pelvic inflammations, themselves of successively diminishing intensity. Thus am I led to think it would be a mistake not to study such cases in connection with accepted cases of puerperal fever.

In addition, however, to the possibility of the septic poison originating in the decomposing organic matter liable to exist in the genitals of puerperal women, there are other sources in perhaps every large general hospital. I feel confident that the poison is at times conveyed from patients in the ward for diseases of women, from the surgical and from the venereal ward, and doubtless, also, from the post-mortem room, despite carefully-devised preventive measures.

The atmosphere of the hospital contributes to the development of septicæmia, especially during the months when closed windows and doors aid in preventing thorough ventilation. It will be noticed that forty-seven cases occurred in the winter and ninety-five cases during the spring months, and mainly, I will add, in March and April: *i.e.*, one hundred and forty-two cases out of one hundred and eighty-one occurred at times when ventilation was least effective, and most of these in early spring. The pregnant women are in the hospital from about two to four months prior to confinement, and have by the end of winter become enfeebled and their systems vitiated by the hospital atmosphere, so that those who go into confinement in early spring have not vital vigor sufficient to resist the inroads of a blood-poison or to withstand the effects of a traumatic inflammation. I believe the septic poison may enter the system through the lungs, being conveyed by the atmosphere, especially if it contains considerable septic poison, as is most apt to be the case at the close of winter. I have seen pregnant patients who, by their facial expression, slight yellowness of skin, moderately increased temperature, feeble and irritable pulse, and general weakness, have suggested to me the probability of septic poisoning, and have seen such patients presenting serious symptoms of septicæmia early after normal deliveries.

The table shows seven cases dying within three days after delivery, and most of these were probably septicæmic before delivery, though at least two of them died of shock and of rapidly extending traumatic inflammation. There were three cases of cutaneous erysipelas, beginning about the genitals after confinement, and these three recovered. Several times erysipelas occurred in the infants of puerperal fever patients; in some the erysipelas appeared about the head, in others about the umbilicus. This occurrence of erysipelas in association with puerperal fever constitutes one of the arguments going to establish the near kinship, if not the identity, of the poison of erysipelas and that of puerperal fever.

There were also co-operating causes. Seventy-one of the patients affected were under twenty years of age,—at a period of life when the undeveloped sexual apparatus, and especially the small pelvis, render traumatism in labor often unavoidable. In this connection it will be noticed that the majority of the cases of "general peritonitis" were patients under twenty years of age. A further co-operating cause is to be found in the fact that one hundred and thirty-two of the women were confessedly single,—illegitimately pregnant,—and most probably a number of those professedly married were, in fact, single, so anxious often are they to conceal their shame. The great majority of all the patients confined in that hospital are single women. Mental anxiety, mental depression, and unhappiness are certainly powerfully co-operating causes in producing a number of puerperal diseases, and among them, though indirectly, septicæmia. The ostracism which in this country awaits the illegitimate mother, and cannot be shaken off, is a terribly depressing agent. Fright, too, in times of endemics often insures and hastens the fatal result. Two of the most rapidly fatal cases I have met with were in two intelligent women, who recognized in the chill, in the thermometric record, and in the remedies directed, unmistakable evidences of the scourge being on them. In less than thirty minutes, frightened as they were, they passed from a state of quietness into one of uncontrollable violence, and died within forty-eight hours, with the usual lesions.

Again, there were one hundred and thirty-six primiparæ and only forty-five multiparæ. Primiparæ are most liable, because of traumatic lesions. In them traumatic inflammation most frequently occurs because of dystocia, and, as I have previously stated, traumatic inflammation opens the door for septicæmia. Moreover, even in times of endemics there is further reason for the liability of primiparæ in the greater frequency of slight or severe lacerations about the lower part of the vagina. Sepsin is rarely absorbed through an unbroken surface, such as exists very often in the vagina and vulva of the multipara. Septic poison transferred to a patient, as is the rule in endemics, almost always enters the system through raw surfaces in the vagina or in the vulva, and these raw surfaces are rarely absent in primiparæ.

In the cases of general peritonitis there was a very large proportion of occipito-posterior positions,—eight in thirty-five cases. I think that some of these eight cases must have been dependent upon injuries sustained because of the position of the head; yet the presentation could not have been often at fault, as there were only one cross-birth and twenty occipito-posterior positions in the one hundred and eighty-one cases.

The labor in thirty-four cases extended beyond twenty-four hours. It is probable that in many of these cases, and certainly in some, the contusion of tissues and the general exhaustion incident to prolonged labors contributed in establishing the abnormal post-partum condition.

Thirty-two children weighed over nine pounds; and when a child of such weight was born of a primipara, especially if she was under twenty years of age, the disproportion of the parts must have occasioned severe traumatism.

Whenever Bright's disease existed there seemed a special tendency to inflammatory action and to septic poisoning, and if this complication occurred, a fatal result usually followed. I have seen several such cases in the hospital. Twenty-six of the one hundred and eighty-one cases were forceps deliveries; in three cases podalic version was performed, and in one embryotomy. In nearly all of these the conditions demanding interference were doubtless harmful, and rarely the interference itself. There were two cases of rupture of the uterus: one occurred in a forceps delivery, the other in a podalic version of a shoulder presentation. The former was fatal; the latter recovered with but slight inflammatory or other serious manifestation.

During the past ten years there have been a considerable number of instrumental deliveries, some of them of unusual difficulty, and in very many, even of the latter cases, recovery was rapid. There are times in the hospital when severe and complicated labors produce but slight disturbances; there are other times when slight dystocia is followed by most serious consequences. This difference seems to me to depend upon the degree of activity of septic influences.

Of the one hundred and eighty-one cases, there were registered eleven cases of more than slight rupture of the perineum, in eighteen cases considerable post-partum hemorrhage; in eleven cases the hand was carried into the uterus to remove an adherent or supposed to be adherent placenta. These are all indirect co-operating agents in the production of septicæmia. The remedies at times resorted to for the relief of ruptured perineum and for the controlling of hemorrhage seem to me also to have been at fault. When septic influences are rife, it seems to me best that primary perineorraphy should not be performed; not that the operation itself is detrimental if the surfaces are accurately coaptated, but that the subsequent confinement so strictly on the back, and the necessity for repeated catheterization, increase the liability to septic infection. Lochial discharges do not escape with sufficient freedom when the patient preserves the dorsal recumbency, and in catheterization the hand or the catheter may convey to perineal or to vulvar raw surfaces, or to abrasion of urethra or of bladder, the poisonous material. It is the rule, with some at least of the visiting accoucheurs, to forbid primary perineorraphy when there seems a strong tendency to septic disturbances in the hospital. In controlling post-partum hemorrhage, the prolonged employment of ice, either externally, or more especially if carried into the uterus, and also the injection into the uterine cavity of such a substance as Monsel's solution, as was done in a few of these cases, seem to me to be capable of determining inflammatory action and indirectly septicæmia. The prolonged and excessive use of ergot itself in hemorrhagic cases may, by its undoubted depressing and disturbing influences, render an enfeebled patient additionally liable to blood-poisoning. Yet it must also be remembered that the excessive loss itself of blood predisposes to inflammation and to septicæmia. I believe that in the external application of moist heat, and, if need be, the injection of hot water into the vagina, or with care into the cavity of the uterus, we have an agent for controlling post-partum hemorrhage, which, by its almost entire harmlessness and by its efficiency, should largely supplant other measures, and which cannot contribute to, but obviates, the entrance of septic poisons.

In several of the cases the children were still-born, and in such women, even if the death of the child occurred during labor, the genital apparatus and surrounding tissues having lost the stimulus to involution that is derived from lactation, inflammation seemed easily developed and septicæmia frequent. When the child has for some time been dead *in utero*, and the change known as maceration has occurred, even if the membranes have remained intact until delivery, the mother has, in several instances, shown evidences of blood-degeneration when labor has arrived, and has after delivery evinced great liability to the early occurrence of the usual inflammations of septicæmia. I am inclined to think that in such instances the maternal sinuses, especially those in or about the placenta, have received from the fœtal portion of the placenta altered organic material in sufficient quantity to constitute a degree of septicæmia. Yet the frequency in such cases of adherent placenta, the necessity of its detachment by the hand in the uterus, and the possible retention and decomposition of fragments of the adherent placenta and of unusually fixed deciduous membrane, render the lying-in of such women peculiarly dangerous, and more especially so if with such conditions there is, as is often the case, constitutional syphilis of the mother.

In one instance, the membranes having accidentally ruptured in the ninth month, before labor, the fœtal heart-sounds were distinctly heard forty-eight hours before labor was induced, yet the fœtus and the placenta were found in a state of putrefactive decomposition, showing the rapidity with which decomposition of a dead fœtus *in utero* occurs after the rupture of the membranes. This patient became an isolated case of puerperal fever, and, though very ill, recovered.

Of the one hundred and eighty-one cases, however, there are one hundred and four in which no abnormality is recorded as having occurred during the delivery; and although doubtless the forceps were used in some instances, and the fact does not appear on the records, yet one-half of the labors were quite certainly normal ones. Most of these occurred during endemics of puerperal fever, and to most of them the poison must have been transferred from other puerperal patients. In endemics the poison is usually derived from other lying-in women; in isolated cases the autogenetic origin of the poison is more frequent.

The most serious endemic occurred during March, April, and May of 1877. During these months there occurred thirty-three cases with the recorded diagnosis of puerperal fever. Most of them were successive cases of delivery, and in not one of them is there recorded an instance of interference or of abnormality during labor. The poison in these cases was transferred in various ways from patient to patient. They were all normal deliveries, but were preceded in the wards by cases of erysipelas, and by one case of fatal traumatic peritonitis, the result of dystocia. This endemic corresponded in its general manifestations with endemics of the so-called puerperal fever seen by various practitioners in private practice, and often noticed in lying-in hospitals ever since the establishment of such institutions.

I cannot believe that in such cases the disease is, at any stage of its development, merely a local inflammation. Blood-poisoning is the determining morbid condition. Local inflammations, most marked in the genital organs and in structures in relation to them, but also not infrequently seen in tissues remote from the points of infection, are evidences of the blood-poisoning. These inflammations existed in some form in every case that came under my observation, and would, I believe, develop in all cases were the fatal termination longer delayed.

However, although in such cases the original poisoning is due to infection from a source external to the patient, I believe that in nearly every case in which the inflammation progresses to the development of purulent matter there are relays of infection from within the woman. Decomposing lochial discharges, putrescent degeneration of venous and of lymphatic thrombi, and purulent infiltrations are repeatedly adding new supplies of septic material to the already poisoned blood. The original poisoning may of itself be sufficiently virulent to produce death, or it may be that a fatal result would not occur were it not that these repeated instalments of autogenetic poison were themselves undermining the vital powers. And let me ask that it be remembered that these secondary poisonings may be considered as being only exceptionally due to absorption of lochial discharges; for usually by the time these become putrescent the abrasions and lacerations of the genital organs have either healed or are in a state of granulation, and granulating surfaces do not absorb the poison. The secondary poisonings are due to the entrance into the circulation of material that is the altered product of vicious inflammatory action. This fact impresses the importance of checking the disease before the formation of this material through inflammatory processes. Upon this fact, too, hinges the explanation of the great value of a special point in the early treatment of the disease, on which I shall presently dwell; and that point is the early local abstraction of blood.

Of the one hundred and eighty-one cases, sixty-one terminated fatally. All the cases of pelvic peritonitis, pelvic cellulitis, phlegmasia dolens, and erysipelas recovered. There was one death due to metritis. There were, then, sixty deaths in one hundred and thirty-three cases having the diagnoses of puerperal fever, septicæmia, pyæmia, and general peritonitis. These one hundred and thirty-three cases with different diagnoses were clearly, with the exception of two cases of general peritonitis, essentially one disease, and should all be classed as cases of puerperal septicæmia. During the past decade there were eighteen hundred and seventy-two deliveries, and following these there were one hundred and thirty-one patients having marked septicæmia, with sixty deaths,—only a little over three per cent. of the cases of confinement, but a large mortality of the cases affected. Yet I believe that not a few of the other cases should be classed under the same diagnosis, and that thus the proportion of fatal cases would be much reduced. Of the thirty-five cases diagnosed general peritonitis there were eighteen recoveries, a remarkably favorable result.

During the endemic of the spring of 1877, when thirty-three cases of puerperal fever occurred after almost successive deliveries, there were thirteen deaths, or a mortality of about forty per cent.

Of the entire sixty-one fatal cases, death occurred in seven cases within three days after delivery, in forty-three cases from three to fourteen days, and in fifteen cases after the fourteenth day. It is reasonable to conclude that of the seven deaths occurring under three days, several were due to infection prior to labor; also that the majority of the forty-three dying from the third to the fourteenth day were infected during labor; and in the larger number of those in whom the fatal result occurred after the fourteenth day, the blood-poisoning probably occurred after delivery, and they were mainly illustrations of the autogenetic variety of infection.

The rarity of the development of a circumscribed abscess in septicæmic cases seems generally recognized, and of the one hundred and eighty-one cases I did not see a case, nor can I find one in the hospital records, of abscess of the peritoneum or of the pelvic cellular tissue. Pus often developed, but was diffused through the tissues, or was found within lymphatic vessels, or within blood-vessels, or on the free surface of the peritoneum. If pus did not form, the deposit of serum and of lymph became eventually absorbed to such an extent that there was no tumor or recognizable induration left behind. I did not see an instance of purulent infiltration of a joint. During convalescence I repeatedly saw mammary abscesses and small abscesses of the general cellular tissue. In fatal cases following normal deliveries, and of the heterogenetic mode of infection, post-mortem observation showed, in quite a number of cases which I myself saw, some considerable uniformity in the abdominal and pelvic lesions. The lesions I almost invariably observed were evidences of inflammation of the veins and lymphatics that leave the tissues of the uterus and of the vagina, the presence in those vessels of pus, and in the veins also of broken-down blood-clots; the pelvic cellular tissue was either infiltrated with pus or with serous effusion, the uterus was large, and in a condition of œdematous swelling, occasionally its mucous lining was necrotic, more frequently swollen and softened. Ulcers with diphtheritic deposits were almost invariably to be seen on the cervix uteri, or in the lower portion of the vagina, or at times on the vulva. Peritonitis was in all cases present, though the abdominal peritoneum at times seemed but slightly involved. The peritonitis was always marked in the pelvis, though even there it seemed often of very recent development. An offensive purulent fluid not infrequently existed in the peritoneal cavity. In a few instances pneumonia, pleuritis, peri- and endo-carditis were observed. Generally the lungs, liver, spleen, and kidneys were congested and softened. The blood was in a fluid condition.

Judging by the comparative appearances of the inflamed structure of the pelvis and of the abdomen, the inflammation seemed usually to have started from the diphtheritic ulcers of the vagina, and to have travelled along the vagina and the connective tissue surrounding it, involving blood-vessels and lymphatics, and extending to the uterus, ovaries, and peritoneum. Peritonitis did not seem to be the affection earliest developed. The inflammation usually extended to the peritoneum by continuity of structure, though doubtless at that time it was dependent directly upon the systemic poisoning, just as was the inflammation of remote serous membranes.

I will not refer to the symptoms that appeared in the cases of merely limited inflammations, nor of cases in which blood-poisoning became engrafted, as it were, on traumatic inflammation, excepting to say, in reference to the latter, that where the constitutional symptoms were out of proportion to the injuries received during labor, I felt warranted in believing that blood-poisoning had occurred. As, for instance, if in a case of pelvic cellulitis I found the temperature to be keeping high, from 102° to 104° F., the pulse about 130, irregular, small, and feeble, and there existed a peculiar pallor and expression, and recurring chilliness or shiverings, with marked exhaustion, I concluded that the patient was septicæmic, and at the same time I felt convinced that the other tissues were becoming involved, as, for instance, blood-vessels, lymphatics, and the peritoneum. This extension of the inflammatory action, when associated with blood-poisoning, did not seem to produce such marked local symptoms as when such an extension occurred without blood-poisoning.

In endemic cases of puerperal septicæmia, if traumatism was not modifying the disease, I did not find a chill to be a reliable guide in determining the incipiency of the disease. It rarely amounted to a distinct rigor: generally there was more or less of chilliness, sometimes with slight shiverings. The symptom often escaped the observation of the nurse, and was often not referred to by the patient unless questioned. Among the earliest symptoms was a rise in the axillary temperature, it even in the beginning of the disease often reaching 102° to 104° F. In the absence of severe traumatism and of mammary engorgement, I concluded from this rise in the temperature that the patient was attacked by the disease,—*i.e.*, during endemics,—and I acted accordingly. Usually there was no rapid development of intense pain. A moderate degree of pain developed in the lower region of the abdomen with the thermometric rise. On pressure the tenderness was not very great. The pulse immediately rose to about 120, and the respiration to about 20 per minute. Thirst and restlessness were early symptoms. In the majority of cases these symptoms appeared between the third and the sixth day after delivery. The chilly sensations often recurred without regularity as to periodicity. As the patient grew worse the above symptoms became aggravated, the pulse 130 to 140, the temperature 103° to 106° F., respiration 24 to 30; a mental lethargy and quiet delirium appeared, the pain extended, but rarely became intense, the tenderness on pressure extended, but remained moderate, and both pain and tenderness sometimes disappeared. Tympany existed, and often it became great. Sometimes there was retention of urine, sometimes unconscious discharge of it. Occasionally moderate diarrhœa appeared, and rarely decided constipation. Vomiting was an occasional symptom. The patient sometimes lay with the legs drawn up; in other cases the limbs remained extended, the patient sliding towards the foot of the bed.

In many cases there was a peculiar flush of the face until a few hours before death. In endemic cases pallor does not seem so often to be present as in autogenetic poisoning, as, for instance, when gradual blood-poisoning *results* as the sequence of decomposing adherent fragments of the placenta. The tongue, in the beginning slightly furred but moist, became dry and brownish, though to a much less extent than in typhoid fever. The lochial discharges usually entirely ceased, or at least were decidedly diminished. At times they were abundant, and were then often offensive. In severe cases the secretion of milk ceased, the breasts becoming empty and flattened. In less severe cases there was a moderate secretion of milk, and the child continued to nurse its mother. I do not think either of these symptoms to be pathognomonic of the disease, and either one may be modified or aggravated by remedies instituted. I learned to look upon the thermometric record as a most important aid in determining the incipiency and progress of the attack. A more or less considerable rise of temperature not infrequently occurs about the third or fourth day after confinement, in patients entirely free from septicæmia, but in times of endemics, in the absence of the recognition of other determining causes, a rise in the temperature warrants us in diagnosing the affection, and demands immediate treatment even in the absence of chill and pain. Thermometric observation during the continuance of the disease indicated the severity or the mildness of the attack. In severe cases, with a tendency to death, the temperature was high, with but slight evening exacerbation, and towards a fatal termination it reached 106°, 108°, or even 109° F. A temporary reduction not infrequently occurred as the result of medication, as, for instance, after the administration of quinia, but in a few hours it would rise again, especially if the attack was a severe one, and in fatal cases it ran high towards the close, despite the quinia. In favorable cases there was a gradual reduction in the temperature as convalescence was being established.

In some cases rare symptoms occurred. In two cases most noisy and active violence came on, the result of great fright. In one instance unintermitting general clonic spasm occurred on the seventh day, probably due to acute uræmia and to the unusually high temperature of 110° F. In another case there was marked tetanus on the third day of the disease. These four cases proved fatal ones.

I should like to speak more extensively of the significance of the different symptoms, did a proper limit to this paper permit. I am forced also to curtail what I should like to say in reference to the treatment, and to the prophylaxis. I will, however, speak of measures which I have myself tried, and will give my own conclusions. The earlier cases under my own care were treated after the method recommended in that superb work on puerperal diseases by Prof. Barker, and I believe the great majority of the entire number of cases were so treated. A future observation led us to modify that treatment. It was the endemic of 1877 that occasioned this change.

The treatment that then seemed to me most satisfactory in its results was as follows. My standing directions then were, that as soon as the incipiency of the disease was perceived in the rise of the temperature, in the increased frequency of pulse and of respiration, in the restlessness of the patient, with or without a chill, with or without abdominal pain and tenderness, immediately the following measures be instituted: the patient was to receive at once morph. sulph., gr. ss, and quiniæ sulph., gr. xv, and immediately, whether day or night, the leecher was to be summoned, and over the lower region of the abdomen sixteen foreign leeches were to be applied, and the bleeding following their bites to be encouraged until from sixteen to twenty ounces of blood were taken. Then a warm poultice was to be applied to the abdomen, and the patient to be given an opportunity to fall asleep. On awakening, the bowels were freely moved by enema. The patient was placed on a mild diuretic and febrifuge mixture, containing liq. ammon. acetat., and she was restricted to liquid but nourishing diet.

Subsequently, at intervals of twelve hours, if the temperature was above 101° F., eight to ten grains of quinine were given at a single dose, at intervals of twelve hours, and she was kept comfortably under the influence of morphia, to relieve restlessness as well as pain. Stimulants, in most of the cases, I preferred not giving until after the second day of the attack, and then, according to the degree of exhaustion, from three to twelve ounces of whisky a day. Vaginal injections of warm water impregnated with a small quantity of carbolic acid were to be used in each case. If the lochiæ were offensive, the same fluid was thrown into the uterine cavity; but the latter was to be done only by the resident physician. These injections were to be used once or twice daily. Unless there was rapid development of general peritonitis, constipation was secured, but usually for not longer than forty-eight hours, when the enema was to be resorted to. If general peritonitis was developing, constipation was allowed to continue. If slight diarrhœa appeared, it was only held in check, not absolutely and suddenly stopped. My main reliance then was on local abstraction of blood, warm poultices to the abdomen, with warm disinfecting injections into the vagina or into the uterus, quinia in antipyretic doses during high temperature, morphia in sedative doses, liq. ammon. acetatis as a diuretic, and stimulants when depression appeared, and in amounts according to its degree. Vomiting was rarely troublesome, except when due to medication, and was usually relieved by small quantities of cold milk and lime-water.

The one remedial measure I have here mentioned that will probably meet with the most criticism is the abstraction of blood in a disease acknowledged to be due to septicæmia. But let it be remembered that I advocate its use in the heterogenetic variety of the infection, not when blood-poisoning has occurred as the gradual result of absorption of septic material originating in decomposition of the lochia or of portions of placenta, or of sloughs of the soft tissues. It is in the class of cases occurring usually in endemics, then, that it will prove, it seems to me, of most value, leaving out of consideration inflammation due to traumatism during labor. This local loss of blood has seemed to me to prevent the pelvic inflammation reaching such a degree of development as to be productive of pus and of putrescence. If this effect is secured, the patient escapes the additional dangers connected with the secondary poisonings to which I have referred. When the application of leeches is made after the calmative effects of half a grain of morphia have been secured, the extreme nervous disturbance at times following their application is obviated. It is only in the very incipiency of the disease, however, that I would resort to the abstraction of blood. It is only *then* that it can be of benefit; later it must prove detrimental. I prefer this local loss of blood to general venesection, because there is associated with it the maximum of pelvic depletion and the minimum of systemic depression.

Although the number of cases under my own observation in which this measure was resorted to was not great, yet I was so much pleased with the results in individual instances, and in the aggregate also, that I am ready to resort to it in other cases.

During the endemic of 1877 my colleague, Dr. Walker, and myself took charge of the wards when the disease was at its height,—*i.e.*, on the 1st of April. Prior to that date there had occurred fourteen cases, with nine deaths. After that date there were twenty-nine cases, with four deaths, and one of these four fatal cases was not leeched. Nearly all of the remaining twenty-eight cases were leeched, and with three deaths. About fifty per cent. of the cases not leeched died, while not more than twelve per cent. of those leeched proved fatal. This percentage is not absolutely exact, because of the absence of accurate detailed clinical histories of all the cases, but it is, I believe, a fair statement of the case. The difference in the mortality was, I think, due to the difference in treatment, especially to the abstraction of blood, although I am bearing in mind and desire to give sufficient weight to the fact that other measures, both preventive and curative, were instituted, such as the removal of the pregnant women to and their confinement in other buildings, and the change of nurses, and, for a period of time, of resident physicians. It may be said that the cases appearing towards the close of the endemic were less virulent than those in the beginning of it. But the disease continued to appear in such a virulent form that it was deemed best to advise the pregnant women to leave the hospital, and the endemic came to an end not so much by a gradual diminution in severity as by an absence of confinements.

The sulphate of quinia seemed to do good in its evident influence on the temperature, and was administered also because of its believed tendency to check incipient inflammation. The tincture of veratrum viride I found unsatisfactory in the frequency of severe vomiting following its administration, and when this effect was produced the patient seemed decidedly the worse for it.

Prophylaxis is of paramount consideration, and should consist of measures antiseptic in nature. These measures arrange themselves under two heads: first, such as will prevent the conveyance to the pregnant or puerperal patient of all poisons, *septic* in character, from sources *external* to the woman, as from the post-mortem room and the dissecting-room, from all kinds of suppurative wounds, from erysipelatous patients, from those ill with diphtheria and scarlatina, and most probably from typhus and other transferable or communicable diseases.

The second class of measures are none the less important, and often are equally practicable, though not always so. These measures should consist in the warding off of all depressing agents during pregnancy and during the puerperal period, such as confined atmosphere and crowd-poisoning, mental depression, the effects of Bright's disease and of constitutional syphilis, and various other degenerating influences, the avoidance as far as possible of all traumatism and of hemorrhage during labor, the invariable and thorough removal of all products of conception, the limiting of the intensity of traumatic inflammation, and the use of vaginal or of intra-uterine disinfecting injections, wherever, either because of the surroundings of the patient or because of the condition of the patient herself, there is reason to apprehend blood-poisoning.

In conclusion, I would submit the following propositions:

1st. Puerperal fever and puerperal septicæmia are dependent upon essentially the same poison, and this poison originates in decomposing organic material.

2d. This poison may be developed in the woman, or may be derived from sources external to her.

3d. Puerperal fever may be transferred from one puerperal patient to another.

4th. Patients suffering with traumatic puerperal inflammation are thereby rendered more liable to internal infection.

5th. The poison is especially prone to develop in lying-in patients suffering with traumatic inflammation, and from them other patients may be infected, though they themselves may escape septicæmia.

6th. In patients suffering with autogenetic infection the symptoms vary greatly, according to the absence or to the presence and degree of traumatism, and according to the special mode of the autogenetic infection.

7th. The symptoms of patients suffering with external infection observe a considerable degree of uniformity, as do also the pelvic and the abdominal lesions.

8th. The treatment of the autogenetic cases must vary greatly, for the same reasons that the symptoms vary.

9th. The treatment of heterogenetic cases is more uniform, and should consist usually of morphia as a calmative, of local abstraction of blood, of quinia in antipyretic and antiphlogistic doses, of warm, moist, external applications, of warm disinfecting intra-vaginal or intra-uterine injections of a mild diuretic, of stimulants according to depression, and of liquid and highly nutritious diet.

I cannot close this paper without referring to the present infrequency of endemics of puerperal fever in private practice. This is due, I think, to the general belief in the communicability of the disease through the physician and the nurse.

The days of the Localists have passed by, and with the light thrown by modern scientific medicine on the nature of puerperal fever, on its cause, and on the mode of its production, it is to be hoped and to to be expected that the days of private endemics are also to be reckoned only in the past. Indeed, the time is approaching when the disease will be seen, even in large hospitals, only in isolated cases.

PRIORITY IN THE ANÆSTHETIC USE OF THE BROMIDE OF ETHYL.

BY R. J. LEVIS, M.D.,

Surgeon to the Pennsylvania Hospital and to the Jefferson College Hospital.

IN a recent article, in the issue of this journal of January 17, I mentioned the claim of Dr. Turnbull to priority in the production of anæsthesia in the human subject with the bromide of ethyl. In his brochure on anæsthetics he distinctly makes this claim in these words: "*I was the first to experiment with this ether on man.*" Whilst feeling no doubt that Dr.

Turnbull was unconscious that he had long been preceded in such administration, there are clear and decided records of the fact.

Mr. Nunneley, of Leeds, England, demonstrated the anæsthetic properties of the bromide of ethyl on some of the lower animals in the year 1849, and in 1865 he used it frequently on patients undergoing surgical operations. The records of these facts occur in the "Transactions of the Provincial Medical and Surgical Association" for 1849, vol. xvi. page 206, and as a part of the "Proceedings of the British Medical Association," *British Medical Journal*, August 19, 1865, page 192. It seems also probable that a chemical substance with which chemists have been familiar since its discovery in the year 1827, and the anæsthetic properties of which have been so long known, has received the practical attention of others of the many investigators in the domain of anæsthesia.

In the volume first referred to is an article on "Anæsthesia and Anæsthetic Substances generally," by Thomas Nunneley, Esq., F.R.S., etc., Senior Surgeon to the Leeds General Eye and Ear Infirmary, etc.," in which are recorded a series of experiments with the anæsthetic effects of the bromide of ethyl on the lower animals. These experiments, the results of which have been confirmed by some more recently made, agree in demonstrating the rapidity of the action of this agent and the speedy recovery from its impression.

After recording his observations with a number of anæsthetic substances, he says, "The bromide of ethyl is a pleasant, rather fragrant ether, not of a very penetrating smell, is sweetish to the taste, at first rather insipid than not, but afterwards it is more pungent. It possesses very considerable anæsthetic power. Its inhalation does not appear to be unpleasant. When not used in large quantities, the animals soon recovered from a condition of complete insensibility, without any disagreeable symptom; and when given, as in No. 98, in a full dose, the creature sank down, without moving a muscle, merely from its weight, into a state of the most profound anæsthesia, within one minute after being put into the jar. The fact of respiration continuing at all during fourteen minutes in such a condition, shows that this fluid is more manageable than some others."

In reference to the choice of anæsthetics, Mr. Nunneley, in the same place, remarks, "The bromide of ethyl is a safe, pleasant, and effectual anæsthetic; but, inasmuch as it does not possess any such qualities as to render its employment more advantageous than some other substances, the very great cost of it will, unless this can be materially reduced, entirely prevent its use. One manufacturer would not prepare it for me under one guinea an ounce."

Happily, the impediment of high cost referred to does not now exist, and with an increased production, stimulated by the demand which is, I believe, destined soon to occur, the price of the article will be much lower. An analysis of the results of Mr. Nunneley's experiments on the lower animals with a great variety of anæsthetics would seem to indicate that the bromide of ethyl has qualities which are not equalled by any other substance; and such an inference may well be drawn from his own guarded statements.

In regard to the record of Mr. Nunneley's application of the anæsthetic powers of this substance to the human subject, the following paragraph from the journal referred to will be sufficient: "Mr. Nunneley showed to the members two substances, the bromide of ethyl and the chloride of olefiant gas, which for some time past he had used as anæsthetics. He stated that he had not lately performed any serious operation, either in private practice or at the Leeds General Infirmary, without the patient being rendered insensible by one or the other of these agents, each of which he believed to possess important advantages over chloroform. They were among the many analogous bodies experimented upon by him, and were favorably mentioned in his essay upon Anæsthesia, which was published in the Transactions of the Association for 1849. At that time the difficulty and cost of their manufacture were too great to allow of their being commonly used. This difficulty had, however, been overcome, and, should their use become general, they can be made at a cost not exceeding that of chloroform, if not at less. They both act speedily, pleasantly, and well. The patient might be kept insensible for any length of time while the most painful and prolonged operations were being performed. No disagreeable symptoms had, in any case, resulted from their use. They were prepared for Mr. Nunneley by Mr. Squire, of Oxford Street, London, from whom they might be obtained.''

In the claim to priority in the demonstration of the anæsthetic properties of the bromide of ethyl and its application to the prevention of human suffering, I deem it of importance to make the correct award, as my continued experience with it in the surgery of a large general hospital and in private surgical practice impresses me with the conviction that it is the best anæsthetic known to the profession.

THE PERMANENT REMOVAL OF SUPERFLUOUS HAIRS BY ELECTROLYSIS.*

BY W. A. HARDAWAY, A.M., M.D.,

St. Louis.

NEARLY two years having elapsed since I presented my paper on the permanent removal of hair to the American Dermatological Association, and various opinions, favorable and unfavorable, having been expressed as to the merits of the procedure, I desire to redirect the attention of the profession to this valuable and practical method of relieving a most disagreeable deformity. I am the more inclined to do this since a further experience has fully justified me in all the claims made for the operation at that time, especially in regard to the permanency of the effects obtained. A brief history of the operation and the method of performing it may not be uninteresting.

The first to suggest the feasibility of destroying the hair papillæ by electrolysis was Dr. Charles E. Michel, of St. Louis, who confined his operations, however, to the relief of trichiasis and distichiasis; but it occurred to me that the electrolysis would prove equally serviceable for the removal of superfluous hairs on the face, particularly in women, by whom the dermatologist is very frequently consulted in that regard. Piffard, in his work on Skin Diseases (New York, 1876), suggests the same operation for the treatment of hairy nævi, and Fox has recently contributed a well-written and commendatory paper on the same subject.

The method of procedure now adopted by me, and believed to be the most satisfactory under all circumstances, is as follows. A No. 13 cambric needle is attached to any convenient handle, which latter is connected to the negative wire of a galvanic battery; a moistened-sponge electrode is connected with the positive pole. Under a strong lens held in the left hand, the patient being seated in a reclining-chair, facing a good light, the needle is entered as nearly as possible into the hair-follicle; after this has been accomplished, and not till then, the patient is told to approach the sponge (positive) electrode to the palm of the hand. The needle is not withdrawn until a slight frothing is observed around its stem, showing that the electrolytic action has been fully developed; but, to avoid shock, the sponge electrode is first released by the patient, the needle being removed subsequently,—being exactly the reverse of the initial steps.

I always leave the hair *in situ*, as it is a guide for the introduction of the needle, the instrument being entered alongside of it, besides being an immediate guarantee of the success of the operation; for if the hair comes away with the very gentlest traction of the depilating forceps, a point always to be tested at once, we know that the papilla has been destroyed; but if force is required for its extraction, it is a sign that the follicle has not been properly entered. I have rarely known the hair to regrow when this test had proved successful. By observing this simple rule, one is enabled to know at the time the success or non-success of his operation. If the hair does not come out with the feeblest traction, I reintroduce the needle time and again until it does: so that it is possible to make each electrolysis an almost absolute certainty as to permanency of result. With the larger number of hairs one introduction of the needle generally suffices for destruction; in some instances, however, the follicle does not run continuously with the apparent direction of the external portion of the hair, but diverges in one direction or another, thus making the entrance into or near it a matter of difficulty. In such cases the direction of the follicle must be sought for by repeated attempts. Frequently, when the follicle has been accurately penetrated, the fact is evidenced by the twistings of the hair as the needle is pushed in.

Under a strong lens (one- or two-inch)

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* Based upon a paper read before the American Dermatological Association, August 27, 1878.

it is not difficult to introduce forcibly the needle directly into the follicle; but this is not absolutely necessary, as the requisite destruction occurs if the instrument is in its immediate neighborhood. For the purposes of the operation I generally employ about eight cells of a freshly-charged galvanic battery. Each electrolysis occupies but a few seconds, the time occupied being in proportion to the number of elements used; but it should be remembered that the pain experienced bears the same relation. It may be well to say here that the amount of pain felt differs in different patients and also according to the region attacked, and that, while it is by no means trivial, it is not unbearable, and a tolerance seems to be established after a few sittings. The immediate effect of an electrolysis is to produce an urticarial wheal around the mouth of the follicle, with a certain amount of congestion and peri-follicular exudation; in a few hours afterwards the circumscribed congestion of the tissues disappears, leaving small papules and pustules at the point of operation, which in turn leave behind them minute red cicatrices, which may remain visible for some weeks. For this reason, where the hairs are numerous, as upon the upper lip, I do not take out more than ten or twelve at a sitting, generally making the operations a week or more apart. Where there are but few hairs, situate on a less prominent region, all of them may be removed at the same visit. Minute scars are most apt to occur when it has been found necessary to introduce the needle a number of times for the same hair; but even on the lip the most marked cicatrices are not noticeable to the naked eye after a few weeks.

Like all other operations of a delicate nature, this one requires a certain amount of skill and tact only to be had by some experience in its performance; but fortunately the manipulations are easy and readily acquired, thus placing it at the disposal of any one possessing a good galvanic battery. I regard a powerful pocket- or hand-lens as an indispensable adjunct to the procedure: indeed, it is difficult to understand how it otherwise can be performed with satisfaction to the operator.

After repeated trials, I have come to the conclusion that a needle of the size referred to above (a No. 13 cambric) is best suited to all cases, causing the least local disturbance at the time, and the smallest amount of scarring afterwards.

While it is possible to remove even very small, downy hairs, such growths scarcely ever amount to a deformity, and their destruction entails so much annoyance and labor that I rarely ever make the attempt; but the *forte* of the operation is in the permanent removal of stiff, beard-like hairs occupying prominent regions. The long, robust hairs on moles are readily destroyed, and often the mole is made to disappear at the same time.

At this writing I have just finished with the case of a lady who was the subject of a moustache that was plainly visible many yards away. The operation has extended over a number of months, with the fortunate result of leaving the lip free from its obnoxious ornamentation and without apparent blemish as regards cicatrices.

It is scarcely necessary to add that the aim of the operation is the destruction of the hair papilla, so that the regrowth of the hair shall be prevented; and it only remains to say that an abundant experience, now running back a number of years, has amply demonstrated the permanent and successful results of this method.

TRANSLATIONS.

The Relations between Absorption by the Skin and Albuminuria.—O. Lassar (*Cbl. f. Med.*, 1879, p. 821; from *Virchow's Archiv*), having partially depilated dogs and rabbits by means of sulphide of calcium, rubbed the animals with croton oil over the prepared areas, with the result of arousing intense eczema and consequent albuminuria, which lasted several days, until death ensued. The kidneys after death were found to show no signs of inflammatory change. If, on the contrary, the subcutaneous connective tissue were excited to inflammation while the skin itself were spared, which was best managed by subcutaneous injections of *five per cent.* turpentine emulsion, the urine contained no albumen. From this it would appear that not the inflammation of the skin, but the absorption of the croton oil, was the cause of albuminuria. Petroleum (kerosene? —Trans.) rubbed into the skin caused the urine to exhale a peculiar odor and to contain a resin-like substance. Repeated inunctions with kerosene gave rise to the presence of peptone, whilst albuminuria was finally produced by repeated applications. In the latter stage desquamation of granular epithelium took place from the kidneys.

Microscopic examination of the kidney shows that within a few hours after the application of the kerosene the interstices and epithelium of the organ are filled with innumerable globules, as are the capsules of the glomeruli and the urinary canaliculi, which are enlarged. The same globules in large quantity, suspended and within the cells, are found in the serum of the blood, the fluids of the tissues, in the liver, lungs, and other organs, but especially in the subcutaneous cellular tissue, into which they have probably penetrated through the hair-follicles. The same infiltration of the entire body may be caused by rubbing in oil or cod-liver oil. These indifferent oils and fats pass through the renal epithelium without doing injury, while the latter is injured so soon as irritating or poisonous materials (croton oil, chromates, kerosene, etc.) are excreted in a concentrated form.

A great part of the disturbances which are caused by varnishing with injurious matters (among which linseed oil must be counted because of its resin) are thus explained. The nephritis of scarlet fever may be explained by supposing that the infectious material which causes the exanthem acts injuriously upon the kidneys during its elimination.

The absorptive capacity of the skin must therefore be exercised only in the case of such matters and mixtures as meet with no hindrance from the fatty material in the ducts of the glands. [The well-known fact of the absorption of digitalis infusion, however, is against this view.—TRANS.]

A NEW MODE OF TERMINATION IN HEPATIC CYST.—At the recent meeting of the French Medical Association, at Montpellier (*Gaz. Hebdom. de Montpellier*, 1879, p. 138), M. Arles related the case of a woman of 78, who, after suffering for some time with a large tumor of the right hypochondriac region, together with fever, bilious vomiting, want of appetite, diarrhœa, etc., passed by the anus an enormous cystic sac like an hydatid cyst. After the expulsion of this cyst the patient's abdomen resumed its ordinary size and her health was rapidly re-established. M. Arles thinks that there was an hydatid cyst of the lower surface of the liver, which first opened into the intestine and was then itself passed by the same route.

SPONTANEOUS DISAPPEARANCE OF AN ENDEMIC CO-HEREDITARY GOÎTRE IN A CONSUMPTIVE TWENTY-THREE YEARS OF AGE.—Feréol (*Ann. des Mal. de l' Oreille*, etc.; *Cbl. f. Med.*, 1879, p. 591) saw a young man whose mother and sister suffered with goître, and who himself was the subject of such a tumor the size of two turkey's-eggs, which was growing continually larger and larger. Having been attacked by phthisis, with cough, weakness, colliquative sweats, etc., so that he was obliged to stop work, he began to observe a decrease in the size of the goître, which diminished so rapidly that at the end of fourteen days nothing more could be seen of it. The lung-trouble went on, however, from bad to worse.

ACUTE CARBOLIC ACID POISONING BY ENEMATA.—Praetorius (*Cbl. f. Chir.*, 1879, No. 49; from *Berliner Klin. Wochens.*) gives the case of a woman of 45 who suffered from diarrhœa which diet and opium had failed to check, and in whom the great intestine was irrigated by a quarter litre of one-half per cent. solution of carbolic acid. Tinnitus aurium, giddiness, and faintness immediately ensued, although the injection was passed. The woman's condition slowly improved after the intestine had been washed out with warm water. The symptoms of poisoning lasted two hours. The diarrhœa was cured.

XANTHELASMA OF THE LARYNX, TRACHEA, AND BRONCHI IN A CASE OF HYDATID CYST OF THE LIVER.—At a recent meeting of the Société Anatomique (*Le Progrès Méd.*, 1879, p. 942) M. Brault showed specimens from the autopsy of a case of hydatid cyst of the liver when xanthelasma palpebrarum had been observed during life. Striæ of xanthelasmic tissue were found in the mucous membrane of the air-passages, in addition to those observed on the skin.

INFLUENCE OF THE NERVES UPON THE PIGMENT-CELLS OF THE FROG.—E. H. Bimmermann, in a dissertation of which an abstract will be found in the *Central-blatt f. Med. Wissen.*, 1879, No. 31, says that the centre of color-change in the frog lies all along the medulla and spinal marrow. It shows many analogies with the centre governing the changes in lumen of the vessels. There are also centres of color-change in the skin itself; and this is regulated only by the central system.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 14, 1880.

EDITORIAL.

THE COMPARATIVE INFLUENCE OF THE PROFESSION IN ENGLAND AND AMERICA.

IT is probable that most of our readers have been both interested in and amused at the outcry raised across the water by the remarks of our London correspondent, Dr. Fothergill, and have been thoroughly convinced of the truth of his statements by their effects: the paper bullet that has not a charge of truth behind it rarely produces such result. So far, we have editorially stood aside and allowed the combat to go on undisturbed; but, as it has occupied as much space as it is worthy of, it seems only proper to close the debate.

It should be clearly understood that the question is not concerning the worth of the medical profession of Great Britain, but concerning the recognition of this worth at home.

Last summer the editor of this journal spent some little time in London, under circumstances the most favorable for meeting with the profession, and found, as he expected, that in culture, practical skill, and gentlemanliness the London profession is unsurpassed anywhere. Nevertheless, there was left an impression, as deep as it was unexpected, that the social position and the influence of the medical profession in England are much below what they are in this country.

The first physician met in London was a well-known man,—the medical attendant of some of the most exalted personages of the realm,—who immediately began talking about the profession. "We doctors! why, we are the very scum of the earth! If we attend my lord to-night, it is not to be expected that to-morrow he should know us on the street. We are only a sort of body-servants, after all." Of course this was talk; but it was talk which welled out of a bitter fountain within.

Another most surprising thing was the tone of awe in which the treasurer of the hospital was spoken of by the medical staff, as well as the evident joy occasioned by the reception of an invitation to his garden-party. Here every doctor under forty years of age in a hospital staff feels himself a little above his hospital manager; after forty, however, he is apt to value men of business as his equals.

It is hardly necessary to multiply such personal experiences in order to show the difference in the position of the profession in the two countries. The contrast is plain in the results of effort. Wherever the American medical profession really determines to accomplish any reform within its province, to obtain proper government aid for any project, or to combat any attack upon its privileges, it is, so far as our experience leads, universally successful. The English profession is much better organized than is the American, but it seems very often to fail in its utmost endeavor. The anti-vivisection agitation shows plainly the difference. We all know the amount of effort put forth by the English profession to prevent the passage of the Vivisection Acts, and the result. In our own State an effort no less determined than the English agitation was made by a well-organized popular society to secure oppressive legislation, but it was hopelessly beaten by two physicians, who were empowered to present themselves as the representatives of a single local Philadelphia medical society. Scarcely a tithe of the power of the profession was put forth.

It cannot be said that our legislators are wiser, our people more sensible, than those of their own race in the mother-country, but simply that the profession has more influence and power here than in England.

Some of the causes of this difference are very apparent; others lie deeper, but their discussion must be left for our next issue.

THE report of the Supervising Surgeon-General of the Marine Hospital Service for 1880 contains but little that requires editorial comment. We note with pleasure the continued honest interest in and endeavor for the sailor class, though we suppose most persons will smile when they read, "The physical examination of seamen and a local registration of the abandoned women on shore would do for syphilis what the enforced introduction of lime-juice has done for scurvy,—practically eliminate it from the list of diseases to which sailors are liable." American commerce may be limited, but sexual commerce is hardly limitable, and we suppose that there are even yet some American sailors who occasionally get beyond the beneficent sway of the Marine Hospital Service.

THE *Boston Medical and Surgical Journal*, true to its past history of unrest with its dress, appears in a new form. If Dame Rumor be trustworthy, in the Hub of the Universe female influence is supreme, and it is possible that this influence has become so subtle and powerful as to impart its own elements to the masculine ways of thinking. Certainly our shelves upon which the bound volumes of the *Boston Medical and Surgical Journal* rest, present a sad array of irregularity and inequality. It really makes no difference what the shape of a single number of a medical journal is, but this continual change is a nuisance, which fortunately is very rare, and which we sincerely hope will not become more common.

LEADING ARTICLES.

THE AUDIPHONE AND ITS PRACTICAL APPLICATION.

THE audiphone was invented by Mr. R. S. Rhodes, of Chicago, who, being himself deaf, experimented by placing a watch between his teeth and afterwards at the end of a rod held against his upper teeth, and finally perfected the instrument he now offers to the afflicted public.

The audiphone possesses the property of collecting sound-vibrations and conveying them to the teeth, from which they are transmitted to the cranial bones and auditory nerve. The acoustic principle involved in the construction of this instrument is the familiar one based upon the superior power possessed by solid bodies of transmitting or conducting sonorous vibrations, and which brings vividly before us those experiments with the tuning-fork, the watch held between the teeth, and the "lovers' telegraph," all of which serve to recall our first lectures upon popular science.

When in use, the upper edge of the instrument is pressed firmly against the anterior surface of the superior incisors, allowing the upper lip to rest upon the diaphragm, and the deaf person is then ready to listen. If the eye-teeth can be used, they generally give the best results.

False teeth may also be used, especially if they fit tightly; should they not, however, they may be made to do so by pressing the lower teeth against them. Those, then, to whom the audiphone is a boon, should look well to the preservation of their front teeth, and if the natural ones are too far gone to use as directed, the roots may, in many instances, be utilized by having false teeth set into them. The handle of the audiphone should be held lightly, and the lower teeth should not be pressed against the diaphragm. Nor should it be held between the teeth. Furthermore, it should not be pressed against the upper teeth too forcibly, thus bending or curving the instrument more than it is already bent by the cord. It must be borne in mind that in all cases the vibrations of the upper edge of the disk impart to the upper teeth the sound-waves, which are transmitted through the teeth and cranial bones to the auditory nerve. *Entirely dependent, then, is this novel instrument upon the condition* *of the auditory nerve, because in direct proportion to the inherent power of this nerve —independent of the external and middle ear or acoustic apparatus—is the influence which this appliance will exert over the hearing power.*

The instrument is of no value to the absolute *deaf-mute*, who can, indeed, never be made to hear, for we might as well expect a person born without eyes (anophthalmos), or blind from total atrophy of the optic nerves, to see.

The term deaf-mute should be qualified by some such word as partial, semi, or total: to the public there are no degrees of difference understood by the term "deaf-muteism." Using the term "deaf" according to its usual vague signification, we can say that the audiphone is of but little service to the majority of those who are deaf. The successful cases are comparatively few when we consider the whole number of deaf persons. If the term "deaf," however, be understood to mean profound deafness, *i.e.*, hearing power only for loud voice close to the ears,—assuming the auditory nerve to be normal,—then the audiphone may be expected to be of avail. Deafness due to the various forms of catarrhal disease of the throat, Eustachian tubes, and middle ear, with thickening of the membrana tympani, and perhaps involvement of the external auditory canal, will be improved by the audiphone, *provided the hearing power for ordinary conversation be reduced to a minimum.* So also where profound deafness is owing to purulent inflammation of the *middle ear*, from scarlet fever, syphilis, measles, etc., the membrana tympani and ossicles have been destroyed, be there sclerosis of, or continued slight or profuse discharge from, the tympanum, the audiphone can be successfully applied. Deafness caused by direct implication of the auditory nerve, and resulting from the malignant forms of scarlet and typhoid fever, cerebro-spinal and other forms of meningitis, syphilis, old age, trauma (concussions), consanguinity, and hereditation, is usually known as "total," and all efforts to restore such, so far as treatment or any form of audiphone is concerned, must be futile.

Proficiency in the use of the audiphone requires practice, and those who for a long time have not heard ordinary conversation, and who are accustomed, wholly or in part, to interpret sound by the movement of the lips of the person speaking, may not distinguish the *words* of the speaker when *first* using the audiphone, though the sound of these words be distinctly heard. Mr. Rhodes, being well aware, doubtless through experience, of the fact that, when those who have impaired hearing know what to expect, they always hear twice as well, makes the following valuable suggestion as a method of practice that will enable many such to rely wholly upon sound:

"Such persons should request a friend to read aloud, while they (the listener) should carefully observe the words (as spoken) in a duplicate book or paper. When this is properly done, the deaf person will be surprised with what distinctness every word is heard by the use of the audiphone. And in this way they can educate themselves."

Furthermore, we must not lose sight of the fact that profoundly deaf persons are easily pleased, and any means which, even to a degree, will enable them to hold actual converse with their fellow-beings will be eagerly grasped and thoroughly appreciated. For instance, if a deaf mother can, with the audiphone, hear her child cry or speak for the first time, she cares not for the tone, or whether even she can understand its childish prattle, so long as she hears it at all.

Audition will be improved by the audiphone in but few of the many deaf persons who enlist the services of an aurist, and the disappointments of those whose hopes to hear once more are stimulated by gossip and the press will far outnumber those who can boast of improvement.

Since the advent of the audiphone in this city we know of four or five cases in which its success has been complete.

The new acumetre of Politzer, as well as the old-established tuning-fork test, the watch between the teeth, a sheet (about one foot square) of thin celluloid, vulcanite, or ferrotype metal, aspen, ash, or poplar wood, bristol-board, papier-maché, or sized paper, will in every case enable us to decide whether the audiphone or its principle can be successfully applied.

The majority of so-called "born deaf-mutes" are rarely absolutely deaf, but are possessed of varying although slight degrees of hearing power. The army of absolute deaf-mutes fills its ranks from those who have lost their hearing through direct implication of the auditory nerve or inner ear.

In teaching "Bell's System of Visible Speech, or Lip Reading," now almost universally employed, the audiphone must in some cases prove a valuable instrument to assist in the education of the *semi-deaf-mutes*, although Mr. Joshua Foster, the able superintendent of the Pennsylvania Institution for the Deaf and Dumb, assures me of his want of faith in the audiphone, even as a means of assisting in the education of the pupils under his charge. The tests which we made, with two of the young ladies who were thought most proficient in the use of the audiphone, were most unsatisfactory, and the voice of Mr. Foster, which had been used in testing the instrument, was almost gone, because the sonorous vibrations could not be felt by the pupil unless the speaker's tones were stentorian. When the pupils' eyes were covered they could not read our lips, and were entirely at sea.

Instrumental music, with its varying sounds and harmonies, as conveyed by means of the audiphone to the profoundly deaf or semi-deaf-mutes, awakens a pleasurable sensation, as manifested by their gesticulations and facial expression.

The opera or concert audiphone is said to possess double power; but most of those who are successful in the single disk appliance can with it hear conversation and concert equally well.

It is the best adapted for semi-deaf-mutes, not only because the sound received is of greater volume and more distinct, but also because the voice of the semi-deaf-mute, when spoken between the disks, is very considerably intensified, and therefore the more distinctly heard by himself.

The *Dentaphone* is an instrument similar to the audiphone, and based upon the same acoustic principle, but constructed more after the plan of the telephone, and is made by the American Dentaphone Company, of Cincinnati. The person using the dentaphone simply holds the instrument in his hand, in any convenient position, with the tooth-piece between the teeth and the open side of the receiver facing towards the speaker. The silk conducting-line connecting the receiver with the tooth-piece should be kept moderately tight, and may be shortened or lengthened to suit the convenience of the person using the instrument. Artificial teeth, for this instrument especially, should fit firmly. The dentaphone can easily be carried about the person, and, judging from our experience, compares most favorably with the audiphone, than which it is less costly.

C. S. Turnbull.

CORRESPONDENCE.

LONDON LETTER.

THE storm in a teapot which the editor of the *British Medical Journal* raised by selected extracts from my letters, and his free comments thereupon, did not subside for some weeks, and was the subject of much conversation in medical circles in Christmas week. Opinions varied, of course, and a number ran off on the false scent the said editor gave them. Others, however, recognized the bias in the remarks, and thought for themselves; and as one well-known member of the profession, who, some few years ago, was a country doctor himself, remarked to me when we discussed the subject, "It would not have mattered a rap if it had not been true." I am not peculiarly sensitive to adverse criticism, but it is not in human nature not to resent personal attacks of an offensive character, and to be accused of writing a "really monstrous production" is certainly offensive, and loses nothing from the prominence given to the attack. As an answer to this, allow me to reproduce the following letter, written to me by a stranger, a university graduate, now residing in one of the most celebrated health resorts on the southern coast:

"Dear Sir,—Allow me thoroughly to endorse what you say of the miserable position accorded in England to country practitioners and their wives in your recent letter to the *British Medical Journal*. I write to you now direct, because I wrote to that journal a letter 'seconding' your views. That letter the editor, with editorial impartiality, has not published, but has given place, in to-day's number, to *three* which uphold a contrary view. I wish that the rising generation of medicos knew as much as I do of the misery of country practice from a social point of view, and I believe your experience (which quite tallies with mine) is by no means exceptional. I fortunately had the means of escape, and am now practising happily and contentedly in a town where there are some educated, well-bred people with whom one can associate on terms of equality, and I have always found that one is sure of a good reception and generous appreciation from such. But, in the country, *with very few exceptions*, the squires and parsons and their wives are simply ill-mannered and offensive, the gauge recognized being, not a person's qualities or attainments, but the number of his acres, or the amount of his tithe-roll. These social Yahoos were in a majority; and I should defy any man to retain his self-respect and be comfortable under the studied insolence of people to whom accident gave the power to be offensive. Men in our profession are, unfortunately, very much at the mercy of whatever society they may be among, and if that happen to be mainly composed of 'the country snob,' *à la* Thackeray, the better read the medical man is the more will he be disliked and insulted, and the more keenly will he feel the injustice of rural social ethics,—ironically termed 'Christian.' Pardon a long letter from a stranger, who, however, thoroughly appreciates your remarks."

This letter bears on its face the stamp of a keen remembrance of a personal experience by a man who held a good position, professionally and socially, before he entered the West-country village where he had this unpleasant experience, and who now is well satisfied and in harmony with his environment. Furthermore, let us see what a correspondent says whose letter does appear. After designating my description a "caricature," he concludes his letter, "But there is some truth in Dr. Fothergill's description of the English medical position. In Ireland and Scotland a doctor is esteemed for his profession; in England he is esteemed for his personal qualities. The reason is obvious. The personal misconduct of many practitioners, the keeping of shops for the retail of pennyworths of castor oil and 'sweeties' by others, and the giving of advice with a supply of medicine for fourpence by graduates in medicine and surgery, so combine to lower and degrade the medical profession in England proper that it is to me a matter of astonishment any social respect is paid to any of us." Such is the deliberate written opinion of a man taking the other side. The editor closes the correspondence on the "Social Pariahs of the Medical Profession"—a term which is not likely to die soon, and which has caused no little dictionary-opening—as follows: "This little escapade must not be taken too seriously. No doubt Dr. Fothergill only meant to emphasize some particular type which had struck his attention, and in doing so yielded to the temptation of over-drawing the picture and generalizing it. We have felt the injustice as strongly as any of our correspondents; but it would not be kind or fair to Dr. Fothergill to treat this as more than a lapse of the pen and a temporary error of judgment." After having placed me in the most objectionable light possible, and having used some very strong expressions in a very prominent portion of the Association's journal, it is, no doubt, kindly meant by Mr. Hart to let me drop so gently; and his explanations as to my mental processes and their working are interesting, though what authority he has for them I individually do not know. In my opinion, his imagination has been playing tricks with him all along in the business, especially when he allowed letters to appear in which the writers left the subject-matter entirely for a wanton and utterly unprovoked attack upon the medical men of the United States, who are held in universal respect for their enterprise and their devotion to their profession; for where else are to be found medical men who, on the same scale, leave lucrative practices for considerable periods in order to study and add to their power of usefulness to their fellow-creatures? If it were not for the spirit of bitterness which has been diffused into this squabble from the first comment to the attack upon the profession in America, the correspondence would have been instructive as to the social position of the profession amidst English-speaking people; as it is, however, it threatens to become a source of considerable irritation. The statement which is allowed to appear one week, that in the United States "one is puzzled to tell a legitimate practitioner from one who holds a five-pound bogus degree from the self-styled 'University of Philadelphia,'" is repeated the next week, in the correspondence he publishes, as—"it is difficult, unless from personal knowledge, to tell whether an American doctor is a legitimate physician or a quack." Whether these statements be true or false must be left for American editors to settle; but it strikes me that when Mr. Hart felt so keenly the "injustice" of my making remarks upon my fellow-countrymen, he might have refrained from allowing aspersions to be cast upon the medical men of another country. As to the "injustice" of what appeared in my letter, I have yet to learn that to describe an existing condition is to create it, as was assumed. And perhaps in the future the profession in England will be perfectly satisfied with the position accorded to it, and we will read no more complaints in the medical journals, but learn, to the surprise of some of us, that the position of medicine here is all that could be desired; that there is no new Medical Bill required, and that the position in the services is perfectly satisfactory; that the medical officers of institutions are not subordinate to nursing sisterhoods, and that even doctors' wives in the country receive that social attention which they deserve, but which I have been gibbeted for saying that they do not always get. As regards the facts of the controversy, I may employ the language of Oliver Wendell Holmes: "Besides, many of the profession and I know a little something of each other, and you don't think I'm such a simpleton as to lose their good opinion by saying what the better heads among them would condemn as unfair and untrue?"

The causes of *organic changes in the heart* are of the deepest interest to the profession.

The accurate diagnosis of the ruin worked is a matter of little interest to the patient unless it lead to action, in relief or retardation of the downward course. Where little or no relief can be afforded to the individual, something may be learned which may be useful to others. At the last meeting of the Harveian Society a paper was read on "Anæmia as a Cause of Heart-Disease," by Dr. Goodhart, of Guy's Hospital, a sound pathologist and a rising physician. His views were corroborated by Drs. James Pollock, W. H. Broadbent, and Pearson Irvine: so they are entitled to the confidence of the profession. Dr. Goodhart has found a considerable amount of valvular disease, and especially mitral stenosis, which is not developed by rheumatic fever or scarlatina, but which takes its origin in anæmia. He related four cases where the patients were severely depleted by recurring hemorrhage, where disease—*i.e.*, structural changes—followed in the heart. One was a young woman 23 years of age, where repeated hemorrhages occurred after a miscarriage. The heart's action became violent and cantering, and subsequently a bruit was developed at the left apex. She sank, and at the autopsy the heart was found to weigh eleven ounces, and to be the subject of structural change in its muscular fibre. This change, which is one of degeneration, is described as one of "tabby striation,"—that is, of unequal degeneration; but Dr. Goodhart said the changes seen under the microscope were not sufficiently definite to warrant the term "fatty degeneration" being applied to the decay. Consequently he preferred the term "tabby striation," as describing the change without saying that it was a fatty metamorphosis. In bringing forward his views, he said the subject was not novel, that Dr. Pearson Irvine had written on the same subject some time previously. The association of fatty degeneration of the muscular structure of the heart with idiopathic or pernicious anæmia has been demonstrated in the wards and the dead-house of La Charité, Berlin. Professor Ponfick some years ago described a number of such cases, chiefly occurring in young women. One of these cases the late Professor Traube gave me an opportunity of examining. This patient was a young woman, who was of waxen hue, with very shallow respirations, the heart's impulse being scarcely perceptible, while the first sound was almost entirely lost. But in these cases the heart-decay is part of the general systemic failure, while in the cases described by Dr. Goodhart the heart-changes were unaccompanied by structural changes elsewhere. In life it is found that the heart's impulse is diffused, and the ventricular dilatation goes on until the mitral valve leaks, when a systolic murmur is heard at the apex. This condition is described by Dr. George Balfour, of Edinburgh, as "curable mitral regurgitation." If appropriate treatment be adopted, the dilatation of the ventricle is reduced, and with it the size of the mitral ostium, until the valves are once more competent to close the orifice on the ventricular contraction. That such results can actually be attained no one now doubts who has had much experience. When, however, this condition of dilatation with regurgitation is continued, then, sooner or later, valvulitis is set up, partly from the friction on the opposing valve-surfaces, partly the effect of the regurgitating current. This change in the valves is communicated to the endocardium proper, and endocardial thickening results, which, at times, passes on to acute endocarditis. Such changes, he said, were not uncommon in the "gouty heart." Acute endocarditis, though spoken of as associated with chronic renal disease or Bright's disease, is very rare, except as a sequel to chronic endocardial change. He recognized that form of mitral valvulitis which I have described as found along with the gouty heart, and which, like the aortic valvulitis, is the result of high arterial tension throwing an abnormal strain on the cardiac valves. But whether such mitral valvulitis is more common among women the subjects of chronic Bright's disease, who are usually anæmic, and where dilatation is blended with hypertrophy of the walls of the left ventricle, or in men, where there is pure hypertrophy as a rule, with a florid complexion, remains to be proved by further observation. He went on to say that mitral stenosis was comparatively common in women and children, and believed that usually it was associated with anæmia, when not the result of rheumatic or scarlet fever. Dr. Pearson Irvine said that acute hemorrhage often led to acute dilatation of the heart, with the muscular and valvular changes described by Dr. Goodhart. In chronic anæmia the main symptoms complained of were usually those due to cardiac dilatation. He thought the addition of digitalis or belladonna to the chalybeates prescribed of much practical utility. Dr. James Pollock said he had long held the doctrine put forward, that anæmia led to cardiac dilatation and then to mitral disease. Dr. Broadbent agreed with the view propounded, and thought that in anæmia rest was very essential, and that iron should be accompanied by digitalis in order to reduce the cardiac dilatation. Mitral stenosis was common in women from anæmia. Hemorrhage was often followed by dilatation of the heart. Dr. Goodhart, in his reply, said that the practical value of the inquiry into the subject is its bearing upon treatment. Too commonly, in out-patient practice, cases of anæmia are treated lightly and in a routine manner, and so much mischief is allowed to go on which might have been averted by appropriate treatment. He said that in many cases iron must be given in very much larger doses than those in common use, and be combined with other tonics in order to avoid the cardiac dilatation which was apt to ensue.

The whole subject is one of extreme interest, as anæmia is a disease which is certainly on the increase. If, as these authorities state, cardiac dilatation with mitral disease as a common sequel is a frequent result of mal-nutrition from anæmia, then anæmia is linked with more serious consequences than it has hitherto been credited with, and the importance of its ready and appropriate treatment is enhanced. We all are quite familiar with the palpitation complained of by anæmic girls and women, but perhaps we have been too much in the habit of regarding it as a phenomenon of no moment, instead of an indication that the muscular walls of the heart were yielding, and consequently have not examined the heart as carefully as is desirable. That dilatation of the heart is a consequence of impaired nutrition, however produced, is a well-recognized fact; and in speaking of the production of cardiac dilatation I have pointed out distinctly that "such a condition is more common with women than men; not as anything peculiar, but as a part of the general rule that states of general or local debility are more frequent with women than men. Probably this is due to the drains upon women, not merely the catamenial flow, but the mucous discharges to which they are so liable during the inter-menstrual intervals of the mensual cycle" (The Heart and its Diseases, 2d ed.). Not only, then, is cardiac dilatation of a chronic character due to states of persistent mal-nutrition, but acute cardiac dilatation, with degeneration of the muscular structure, or changes in the mitral valve, is, it appears, a not unfrequent consequence of acute anæmia. Such being the case, it behooves us all, as practitioners, to keep our eyes open to these facts, and in cases of anæmia, however produced, in children and women especially, to treat the condition with reference to the heart. Rest in bed is the first step to be taken; then the system must be flooded with iron; and further, digitalis, belladonna, or strychnia must be added in order to prevent cardiac dilatation, or to restore the heart, if already dilated, to its normal size, or as near it as we can reach. As Dr. Pollock remarked, the subject is one for thoughtful consideration; and with this expression of opinion all will agree.

J. Milner Fothergill.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

At a conversational meeting of the Philadelphia County Medical Society, held at the hall of the College of Physicians, Philadelphia, December 10, 1879, Vice-President Dr. R. J. Levis presiding, Dr. W. H. Parish read a paper on "Puerperal Septicæmia" (see page 237).

DISCUSSION.

Professor William Goodell approved the remarks made by the lecturer. Having been called upon for his experience on the subject presented, he premised the observation that there is one important difference between the cases received at the institution with which he was connected and that from which Dr. Parish had derived the lessons of the paper just presented; while they are alike in some respects, they differ in the fact that at the Preston Retreat only married women are received, while at the Philadelphia Hospital the patients are generally young single women. Moreover, the number of primiparæ in the latter institution is larger, and it is in just such cases that trouble in parturition is likely to occur. Therefore, in referring to his own statistics, he did not intend to throw any discredit upon those of the lecturer. There is no question that the state of mind is of great moment in advancing or retarding recovery, and this influence is especially exerted to depress the patient when confined of an illegitimate child in a public hospital.

While approving very highly of the paper, there were one or two points upon which he could not quite agree with the lecturer. In the first place, it had been stated that a woman might become septicæmic before confinement, through living in an unclean ward. In a careful use of terms he believed that it would be proper to say that the mother's blood might become depraved and poor, but scarcely septicæmic in the absence of suppuration or decomposing animal fluids. Such cases in the wards, however, may readily degenerate into cases of true blood-poisoning after confinement.

In regard to the identity of erysipelas, septicæmia, and puerperal fever, he referred to some very pertinent cases which took place in the Preston Retreat. In one of the wards a woman had a well-marked attack of septicæmia, which gave erysipelas to her child; from these cases infection in the form of puerperal fever was conveyed to two other women, who died. Finally, the nurse who attended the last two cases became seriously ill from erysipelas.

In speaking of the proportion of cases of blood-poisoning, he said that in the institution referred to some fifteen hundred and three or fifteen hundred and four cases had been delivered, with fifteen or sixteen deaths in all, from various causes. One died from post-partum hemorrhage; one had a concealed accidental hemorrhage; another died from what he thought was due to the injection of perchloride of iron into the cavity of the womb,—at all events, he had never done it again. A third case died from chronic abscess of the middle ear, and a fourth from heart-disease.

There were altogether eight deaths outside of septicæmic troubles, leaving a mortality of only seven cases in over fifteen hundred cases whose deaths could be at all attributed to infectious or septicæmic influences.

Prophylactic measures are strictly enforced, and are considered of the greatest importance. As soon as a woman falls into labor, she has a warm bath for the whole body. No digital examination is made until the physician's hands have been thoroughly washed with carbolic soap and nail-brush and then lubricated with carbolated lard. The nurse also washes the person of the patient with carbolized water, and with a small sponge washes out the vagina with the same solution. After confinement, some oakum and a carbolized solution is given the patient, with which she washes her person twice a day, which is subsequently thrown away. The nurse never performs this office unless the patient is very sick. The bodily temperature is taken night and morning. When the thermometer indicates 100°, a powder is given containing morphia, gr. ¼, and quinia sulphate, gr. x, and repeated every two hours, which reduces the temperature and puts the woman to sleep.

There is another point. He had been struck with a remark made by Dr. Hodge many years ago, that the position of a woman upon her back after confinement, owing to the curve of the vagina and the swelling of the vulva, caused retention of the lochia. Upon this hint he had founded and adopted a plan which he called puerperal gymnastics. Every woman on the day after her confinement sits on a chair while her bed is being made. Then he was accustomed to use some mode of irrigation in suspected cases. It is very desirable to avoid introducing the hand into the vagina in such cases, for fear of infecting other patients. The glass nozzles of Dr. Chamberlain can be introduced up to the fundus of the uterus, if desired, without inserting the hand at all. In a case of a woman under his charge a year ago, he had saved her life by these injections. She had an exceedingly bad attack of puerperal septicæmia. She was very pale, had chills, pulse very compressible and rapid, 130 to 140, temperature of axilla 105° to 106°, when he saw her. He personally administered injections three or four times daily. He never put his hand into the vagina. The injections were always followed by a reduction of temperature. He commenced with a two per cent. and increased to a three per cent. carbolized solution; but now with his subsequent experience he would not hesitate to throw a five per cent. solution into the uterine cavity. With reference to the thermometer, he thought its daily use a valuable means of indicating the condition of the woman. But it sometimes causes unnecessary anxiety. It may run up to 100°–101°, with the pulse and general condition good, causing false alarm. In some cases these freaks cannot be explained; in others they are connected with the secretion of the milk; but if the temperature rise decidedly on the third day it is generally due to septicæmia. It only very rarely happens that the milk fever causes any rise in temperature. Very often what is called milk fever he believed to be a mild form of septicæmia.

Another point in practice. Most obstetricians deliver upon the left side, but he never delivered the placenta with the mother upon the side. The air goes into the womb very quickly. In Sims's position there is a tendency to suck up the air into the womb by the falling forward of the viscera, and the passage of hospital air into a womb is a cause for septicæmia. This precaution of placing the woman upon her back and delivering the placenta by Credé's method, in order to prevent the air from getting into the uterus, is, of course, less important in private practice.

The lecturer had spoken of diseases of the fœtus causing septicæmia whenever the child dies, and Dr. G. agreed with him. We always see it when death of the fœtus occurs in extra-uterine fœtation. We know that absorption of liquor amnii may occur, because one of the first signs of the death of the fœtus is the diminution of the abdominal tumor. The lecturer had also said that during an epidemic of puerperal fever he had had very good results from non-interference in lacerations of the perineum. Dr. G. thought this a mistake. You have a large raw surface which you close with stitches. The needle-points create new foci, it is true, but by covering the raw surface you would prevent absorption much more effectually.

In concluding, he wished to ask the experience of those present with regard to scarlet-fever flush occurring in connection with puerperal fever. He had seen a case where the flush was so much like that of scarlet fever that he did not know to this day whether the case was one of scarlet fever or of pyæmia. He believed, however, that it was the latter; for a local explosion, in the shape of a mammary abscess, saved, as he thought, his patient's life.

Dr. Albert H. Smith commended the paper for its practical character, and said that its subject was the great scourge of obstetric practice, and, to a great extent, the opprobrium of obstetrics.

In regard to the relation of erysipelas with puerperal fever, the speaker could not assert that his observation had carried out the views advanced by the lecturer. In his experience simple idiopathic general erysipelas does not directly communicate puerperal fever. He had attended such cases, while also attending lying-in patients, and had never seen any cases of septicæmia resulting. He recalled a case that he had seen with Dr. Goodell, where two-thirds of the body of a woman was covered with erysipelas, not simply with an erythematous blush. The patient recovered after a very prolonged illness. He was obliged to examine her repeatedly during this period, and had a large number of parturient cases under his charge at the same time, but none of them became infected. The relation is certainly not direct, as it has been considered, although from erysipelatous cases attended with suppuration the hand of the practitioner may communicate to the abraded surfaces or open points upon the genitalia septic poison which will develop puerperal fever. Erysipelas, in hospital or private practice, and puerperal fever may arise from similar conditions and apparently from the same cause. As the pus from an abscess may be carried by the surgeon's hands from one patient to another, and develop, after an operation, either erysipelas or septicæmia, so may puerperal fever be carried by the physician's or the nurse's hands contaminated by any foul matter. He failed to see any specific relation of cause and effect between these disorders, but looked upon idiopathic erysipelas as one of the essential fevers. He did not think that erysipelas would arise in the puerperal woman without a specific cause, and could not believe that if one went from a woman with typhoid fever, smallpox, or scarlatina into the lying-in chamber, one would be liable to convey anything but the specific disorder in question, and that these do not cause puerperal fever was, he thought, well established. In a case in the Woman's Hospital in this city, on the third day after confinement a rash, strikingly similar to that of a typical scarlatina, appeared, covering her whole body, as well as the fauces and mouth. There was high febrile action, frequent pulse, and very high temperature, but in no respect did it present the appearance of puerperal fever; there were none of the pelvic symptoms, nor were there present the peculiar vaginal discharges. The woman was confined a second time about eighteen months after, and again upon the third day the same condition ensued. She was very ill each time, but had no symptoms of puerperal fever.

The speaker endorsed Dr. Goodell's views concerning perineorraphy, as the raw surfaces are a source of septic infection. The laceration should be closed not merely for the purpose of preventing the absorption of septic matter, but in order to prevent the constitutional disturbance due to suppuration, which would take place in the course of a few days. We may have cases of pyæmic fever occurring independently of the puerperal fever, and the speaker had seen it occur on the fifth or sixth day, in cases where there were large granulating surfaces. Septic puerperal fever comes on in the course of two or three days, but this pyæmic fever appears in six or seven days, and runs the course of pyæmia. Therefore, if you can bring about the union of those surfaces in twenty-four to forty-eight hours, or about the time when puerperal fever begins, you may save the patient a great deal of future trouble.

As regards prophylaxis, all admit it to be a matter of immense importance. Of the means proposed he particularly approved the preliminary washing of the vagina with carbolized water and continuing these injections every three or four hours for five or six days. Where perineorraphy has been performed, no injections should be made for the first twenty-four hours. If you can keep the vaginal canal washed out with strong antiseptic fluids, you will be very likely to prevent absorption. Where septic infection has occurred, he preferred Labarraque's solution (ʒss to Oss or Oj), or permanganate of potassium (gr. ½–ij to ℥j).

Leeching the abdomen, as mentioned by the lecturer, was regarded as a sovereign remedy by Professor Charles D. Meigs, but the speaker said that he would hesitate before applying it in many cases, as few would be able to bear the loss of blood. Moreover, he was unable to appreciate the distinction of cases proposed by Dr. Parish; nor could he understand why it might be useful in cases where the poison was in every portion of the body, but not in the cases where it was confined to the pelvic organs. The speaker would have adopted directly the converse view. The results reported, however, appear to endorse the treatment. The methods of general treatment he would entirely endorse: warm applications and good, plain, nourishing food. He believed that enough stress had not been laid upon this part of the management; he had seen cases kept alive and recover after two weeks of nutrition by the rectum (℥i or ℥ij every hour of milk or meat broth), when the stomach rejected everything and no medicine could be retained. Under this treatment alone the patient recovered, without any medical aid except external applications. In conclusion, he stated his belief that the value of rectal alimentation could not be overstated.

Dr. E. T. Bruen referred to a case of erysipelas in the surgical ward of the Philadelphia Hospital, which was followed by a case of malignant scarlatina in the obstetric ward, which proved fatal. This was followed by an outbreak of an epidemic of both erysipelas and puerperal fever in the obstetric wards, which required them to be closed for the time.

Dr. O'Hara believed that a family relationship existed between the several forms of blood-poisoning mentioned, and spoke of a case which, after a normal labor, developed symptoms of scarlet fever, and died in a few hours.

Dr. Alfred Whelen had seen a case of scarlet fever in a puerperal woman, with an eruption on the second day; she had all the symptoms of puerperal fever, and died on the fifth day; the baby also died. It was ascertained that scarlatina had been present in the house in another child.

Dr. J. A. McFerran observed that if any septic matter could cause puerperal fever, then it could not be identical with scarlet fever, unless we are prepared to deny that scarlatina is a specific disease. In the treatment of septic diseases he relied upon morphia and quinine, but believed that the morphia has the most effect.

Dr. George Hamilton, in referring to puerperal gymnastics, said that he was reminded of an old physician in the country near Philadelphia, who, in thirty years' practice, invariably made his patient, immediately after the delivery was accomplished, get out of bed and stand upon her feet while her clothing was entirely changed. The speaker presumed that this physician's experience had shown him that the practice was not dangerous, or he would have discontinued it; but he had never dared to try it in his own practice. It might be useful in aiding the discharge of clots, but he did not think it free from danger.

In the treatment of puerperal fever, the question of blood-letting would depend upon the condition of the patient: if she were anæmic, a few ounces of blood might cause death.

Dr. G. Wilds Linn, by invitation, spoke as follows:

After expressing his satisfaction with the general sentiments expressed in the paper and the discussion, he said that it would be proper to make some remarks upon the epidemic of 1877 of puerperal fever in the Philadelphia Hospital, which had already been referred to as being of very severe type. It arose in a very peculiar manner. He was called by the resident physician to see a woman who had been in labor for several hours. He knew very little of the history of the case, beyond the fact that the labor was a protracted one and required a forceps delivery. There was a laceration of the perineum running two and a half inches into the rectum.

The next morning the woman's temperature was 104°, the pulse correspondingly high, and extremely feeble. She was completely prostrated, and in forty-eight hours she was a corpse. The speaker was utterly unable to account for this death at the time. He thought that it might be due to rupture extending into Douglas's cul-de-sac.

Post-mortem examination showed peritonitis confined to the middle portion of the abdomen and running around in a belt three or four inches in width. There was no inflammation of the pelvic organs.

In the course of twenty-four hours another woman had high temperature, and the indications of puerperal fever; then three or four cases occurred, and others so rapidly that the blood-poisoning appeared to be endemic, and the wards had to be closed and thoroughly cleansed and disinfected.

In regard to the treatment of puerperal fever, it had been said that during his superintendence fifty per cent. of the cases died, while during the next term only fourteen per cent. were lost. He believed that this difference could not be entirely attributed to the difference in treatment, which was leeching. The greater mortality might be explained by the fact that there is less ventilation during the winter and early spring months.

Dr. Parish, in reply to Dr. Goodell, said that he had intentionally omitted extended reference to prophylaxis from his paper, because it had already exceeded the limits, and its consideration was not essential to the question which he had wished to discuss. He had, however, gained some valuable points from the remarks made during the discussion.

In regard to the occurrence of ante-natal blood-poisoning from a dead fœtus, he would not deny that the mother's blood might be profoundly affected without septicæmia being present. In the cases mentioned he believed the symptoms were those of septicæmia. The possibility of this is held by Barker, although denied by other authorities.

Concerning immediate perineorraphy there is also a difference of opinion. After the edges of the wound are brought together they very often do not unite in septicæmic cases, but form a trap for discharges, where they remain in contact with the absorbing surface, which cannot be kept clean as when the wound is left open.

In regard to the cases mentioned by Dr. Bruen of erysipelas, he had noticed that they were reported in the books as septicæmia, diphtheria, and other diseases. In a case of a woman in Delaware, narrated to him by Dr. Cooper, he recalled the fact that a scarlet blush appeared on the genitals on the second day, and rapidly extended to every part of her body except the soles of her feet and hands. The eruption was very like that of scarlatina. As regards erysipelas, he could not state from his own experience that it would produce septic poisoning.

In referring to Dr. Linn's case, he believed that it was produced by several causes, and mainly by the erysipelas in the wards, and their poisoned condition and bad ventilation, which he had already referred to in speaking of the origin of the epidemic of 1877.

He had been surprised that the treatment had not been more severely criticised, as he was aware that the abstraction of blood in this condition was, in the minds of some, very objectionable. His experience in severe cases had fully warranted his recommendation. He had seen a gaseous, fluttering pulse become stronger and fuller after a bleeding. He would, however, abstain from leeching in autogenetic cases, as he had never seen one which he thought would bear it; but in heterogenetic cases the abstraction of blood is often of the greatest value. The case of Dr. Linn's, where death occurred in forty-eight hours, he had already referred to in quoting an endemic of puerperal fever which could be traced to a fatal case of traumatic peritonitis. He fully appreciated the point raised by Dr. Linn, that there was less mortality from septicæmia because there was better ventilation in the later spring months, and also the danger was lessened by the opening of new wards. The cases reported, however, were quite as seriously ill in the new wards as in the old, and his own opinion was that by the old treatment a larger number of them would not have recovered. He believed that the abstraction of blood did good.

On motion of Dr. O'Hara, the thanks of the Society were unanimously tendered to Dr. Parish for his able and interesting paper.

F. W.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JANUARY 8, 1880.

THE PRESIDENT, DR. S. W. GROSS, in the chair.

Case of tumor of scapula. Presented by Dr. NANCREDE.

ISAAC L., æt. 23 years, was admitted on September 24, 1879, to the men's surgical ward of the Protestant Episcopal Hospital with a large tumor of the scapula. He was a farmer by occupation, had been healthy, and his family history was good in every respect. For about a year past he had been troubled by occasional cough, which was relieved by simple expectorants. About one year ago, without any assignable cause, a small tumor of the size of a hickory-nut was noticed growing from the left scapular region, in the neighborhood of the spine of that bone. It rapidly increased in size, until at the time of his admission it measured about six inches in both the transverse and vertical diameters. No special pain was complained of, and his appearance apparently indicated robust health, although, perhaps, he was somewhat paler than a man of his type should have been.

The growth seemed firmly adherent to the scapular spine, and, being bound down by the dense infra-spinatus fascia, appeared to involve the bone still more extensively. When the removal of the growth, however, was attempted, upon September 26, 1879, it was found merely to have sprung from the lower border of the spine of the scapula, no other portions being involved, and not the slightest trace of infiltration was observed. A portion of the flaps sloughed,—probably from pressure used to arrest consecutive hemorrhage,—and the wound did not heal well, suppurating freely; but the discharge did not become offensive until towards the close of life. Two weeks before the fatal termination, he complained of pain over the left side of the thorax, which, however, was quickly relieved by treatment. Following upon this, exhaustion became marked, necessitating the recumbent posture, and was accompanied by profuse sweating, chiefly affecting the head, back, and thorax. There was also some muco-purulent expectoration, lasting, however, but two or three days.

Physical exploration revealed impaired resonance of both lungs, specially the right, over which mucous and sonorous râles were heard. The respirations varied from 18 to 32. Steadily increasing and marked dyspnœa was rapidly developed, as if from pressure on the bronchial tubes. The expectoration was chiefly frothy mucus. Death occurred on November 6, 1879.

Sectio cadaveris.—This revealed numerous tumors occupying the substance of both lungs, chiefly the right, which was almost wholly converted into a mass of sarcomatous tissue. The thoracic walls were also studded with similar growths. The right lung was adherent to the diaphragm, and from the thoracic cavity of the same side five and a half quarts of sanguineo-serous fluid were removed. The liver and kidneys were both healthy. Other organs not examined.

For the notes of the case Dr. Nancrede said that he was indebted to Dr. Bickford, who had been his resident at the time of the man's admission, and who attended him until his demise.

Report of the Committee on Morbid Growths.—"The tumor presented by Dr. Nancrede from a microscopic examination is found to have the histological structure of a sarcoma, viz., consisting of cells possessing a relatively large nucleus; the majority of the cells have a spindle-shape. The intercellular substance is small in amount and granular. The blood-vessels present the characteristic appearances met with in this class of neoplasms, being embryonal in structure. From an examination of a large section, it is seen that the growth has penetrated between the neighboring fasciculi of muscular and fibrous tissue, also the surrounding adipose tissue is infiltrated by the new formation.

"January 22, 1880."

Carcinoma of pyloric extremity of the stomach. Presented by Dr. J. C. WILSON.

The specimen was removed from the body of a man, 56 years of age, who was admitted to the medical ward of the hospital of the Jefferson College on the 15th of November, 1879, and died six days after.

He stated that his health had been good until the winter of 1878–79, when he had several attacks of cold and lost strength, which was never regained. During the winter he was dyspeptic, and began to suffer pains in the epigastric region, most intense some time after eating, a sense of weight, belching, occasional vomiting, which never contained blood. These symptoms continued until two months ago, when the vomiting ceased and the pain became less irksome.

Has had several attacks of faint jaundice, habitual poor appetite, constipation, with occasional but never long-continued white stools.

A few weeks before he came to the hospital he became dropsical.

On admission, there was extreme universal anasarca, with evidence of large abdominal and moderate pleural and pericardial effusions. There was slight tenderness of the belly on palpation. The respiratory murmur was faint, and not well heard through the thick and œdematous chest-walls. Heart-sounds feeble; at apex a faint systolic murmur; the second aortic sound not relatively intensified. Liver dulness in mammary line and in the line of the anterior axillary fold not decreased. The urine, on admission, contained no albumen; later, a trace.

At the autopsy, the heart was found enlarged, fatty, its muscle-substance the color of a faded leaf, mottled and streaked. The coronary arteries were rigid and highly degenerated. The leaflets of the mitral valve were thickened; those of the aortic valves and those of the right heart showed no morbid change. Kidneys small; the cortex diminished; capsules adherent. The stomach was found to be the seat of a tumor situated at the pyloric extremity, cylindrical in shape, measuring transversely two inches and longitudinally three inches. The opening into the duodenum remained patulous, admitting the finger without difficulty, which is astonishing considering the size of the tumor. An examination of the other viscera showed them to be free from secondary deposits.

Carcinoma recurring in the axillary glands after excision of a tubular carcinoma of the male mamma. Presented by Dr. S. W. Gross.

On the 24th of March, 1879,* I exhibited a scirrhous carcinoma of the breast of twelve months' duration, along with two infected lymphatic glands, which had been removed from a male subject, 59 years of age. On the 7th of the following August, the patient returned to me with a cluster of glands in the axilla, which were hard, discrete, and mobile. The cicatrices of the former operation were sound, and the skin was free from disease. I advised immediate operation, but this was postponed until December 31, when I excised, along with a portion of the adherent skin, a mass as large as a hen's egg, which was composed of twelve closely united glands, as well as four isolated glands. They were for the most part densely hard, although five were elastic and deeply blood-stained. Their structure, under the microscope, reproduced the characteristics of the primary growth.

Perforation of the appendix vermiformis. Presented by Drs. Eskridge and Mills, for Dr. J. C. Norris.

Mr. J. F. D., aged 53 years, left Batavia, New York, in good health, on Thursday, September 25, 1879, for Bethel, Connecticut. After his arrival at the latter place he partook of a luncheon of cheese and grapes, and soon afterwards was seized with severe pain in the hepatic region. He was attended by Dr. A. E. Barber, who has kindly furnished a brief statement of his experience with the case. Dr. Barber says that he was first called in to see Mr. D. on Friday, September 26. He found him suffering pain in the hepatic region, with a little tenderness over the abdomen. Morphia was administered hypodermically, and gave relief. He was more comfortable on Friday evening, but his tongue was somewhat coated, his pulse was 115, and he had some fever. On Saturday morning he seemed better; his pulse was 100, and he still had some fever. A fever mixture and morphia and camphor-water were ordered. Saturday night he was restless and had considerable pain, but slept most of the time until Sunday morning. On Sunday, Monday, and Tuesday he became more comfortable each day, and, as he was up and around on Tuesday afternoon and on Wednesday, Dr. Barber reluctantly consented to his leaving for Maryland, recommending him to wait a day or two longer. As he felt comfortable, however, he concluded to go as far as New York City on Wednesday. He reached that city without special inconvenience or discomfort, and on Thursday came in a Pullman car to Philadelphia. On his arrival he refused to take a carriage, but rode in a street-car to 921 N. Sixteenth St., where he intended to stop for a short time. He took a bath and ate his supper, and afterwards Dr. J. C. Norris was called in to see him. Dr. Norris found that he was not suffering much. He complained of slight pain in the hepatic region, but had no cramps and no abdominal tenderness. His pulse was 120, feeble, and occasionally intermitted; his tongue was brown and dry; his extremities were cold, but the doctor thought that he had not reacted thoroughly from his bath. He prescribed opium, digitalis, and camphor; and whisky, beef-tea, and milk were ordered. Dr. Norris was sent for at five o'clock the next morning (Friday). He found him cold and pulseless; he continued to sink, and died at 7 A.M. His wife stated that he had been on his feet at one o'clock, and after this seemed to sleep well, but at four o'clock she found that he was cold. He complained of nothing during the night.

The autopsy was held twenty-four hours after death. Muscles rigid and body well frozen. All the tissues appeared well nourished. Fat was abundant, being an inch thick over some portions of the body. The thoracic and abdominal cavities only were examined.

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* See Phila. Med. Times, vol. ix., No. 303, p. 484.

Thorax.—The lungs were apparently healthy. The heart was nearly normal; slightly hypertrophied, and well supplied with fat, but no evidence of any of the muscular fibre having undergone fatty degeneration. All the valves and orifices were normal. Beginning ossification of the walls of the ascending portion of the arch of the aorta was present.

Abdomen.—The walls were very thick from the abundant deposit of fat. The entire peritoneum was more or less injected, and the lower portion, especially that on the right side, highly inflamed. Pus and lymph filled Douglas's cul-de-sac and a large portion of the right iliac fossa. The bowels, peritoneum, and walls of the right lower portion of the abdominal cavity were intimately adherent. Those portions of the bowels and peritoneum which lie in this region of the abdomen were so closely glued together that the pus formed in their interspaces was unable to escape, a large fluctuating substance like an abscess of huge size being thus formed. When the adhesions were carefully torn away, over half a pint of pus was found in the tumor-like mass. The bowels immediately above and below the vermiform appendix were highly inflamed, darkened, and softened, with the mucous surface undergoing the suppurative process. In the cul-de-sac of Douglas, after repeated searches for some offending substance, a cylindrical body three-fourths of an inch long and one-fourth of an inch in diameter was found. Sections of this under the microscope showed it to be composed of fecal matter.

This case, like those of a similar nature previously reported to this Society, well illustrates the importance of keeping the patient and his bowels perfectly quiet for a length of time when any trouble in the region of the appendix is apprehended. Had this man remained quiet for a week or two, suppuration, if it had already begun, might have been arrested, or, if perforation had taken place, death would possibly not have resulted, because adhesions had already formed around the region of the appendix sufficient, if the recumbent posture had been maintained, to prevent the general diffusion of pus, which gives rise to shock. Cases are on record, and some have occurred in the practice of members of this Society, in which recovery has taken place although all the symptoms of inflammation and suppuration in this region have been present. In these, after recovery, a large tumor has been found in the right inguinal region.

Cancer of œsophagus and stomach. Presented by Dr. L. S. CLARK, for Dr. NEWCOMET.

Captain N., æt. 54, robust, florid complexion, a spirit-drinker; employed as captain in merchant marine; during the war pilot on transports; since the close of the war a hotel-keeper, but for the last few years again on water as pilot, his last service being on Fairmount boats.

About August 20 he called at my office, complaining of, as he called it, *acid dyspepsia;* he had an acid taste in his mouth, with vomiting, but not much pain. He still kept at his post, but began to lose flesh and strength, the distress becoming more marked, with difficulty in swallowing, which increased very rapidly. Solids were entirely discarded; even rice and barley could not be taken; milk was taken for some time, but frequently vomited; always complained that it hurt him; beef-tea and milk would "come up," as he called it, while water did not distress him so much.

During the act of deglutition he placed his hand over the lower part of the œsophagus, saying, "Here it is," and in a few moments he would regurgitate, apparently by spasmodic action. No nourishment could be taken by mouth for nearly two weeks, during which time he complained of pain over the cardiac region. The family record was good, so far as cancer was concerned.

The post-mortem showed an extensive diseased condition of the stomach and œsophagus.

Report of the Committee on Morbid Growths.—"The specimens were so far advanced in decomposition that it was impossible to make a histological examination of them.

"January 22, 1880."

Cancer of the œsophagus. Presented by Dr. L. S. CLARK, for Dr. NEWCOMET.

P. R., æt. 57, a robust German, in this country twenty years; surrounding circumstances (locality, etc.) fair; habits very fair.

About four years ago he began to notice that while drinking, especially beer or wine, there would be regurgitation (it would come up without an effort, as in emesis). He was frequently accused of intoxication on that account when he had drunk nothing.

On May 4, 1869, he met some friends in a wine-house, when the above-named trouble was observed and he was advised to call on me. I was convinced there was stricture of some kind. Professor Agnew examined him about a week later, and verified my diagnosis. On swallowing he made a double effort. By applying the ear to his chest along the lower part of the œsophagus one could hear a second sound as produced by swallowing.

Solids were rejected at once. Semi-solids could be taken with great difficulty, only a little at a time and at long intervals. He soon became unable to swallow anything but liquids, and even beef-tea could not be taken. Wine and water, a teaspoonful at a time, at intervals of about ten minutes, were retained. At last he would take nothing but ice. Strange to say, he had no craving for food.

He was very much emaciated; had no pain, and was hopeful to the last. Died without a struggle, purely from exhaustion, on July 18, 1869.

On post-mortem examination we found all

the organs in comparatively good condition, except the œsophagus, where we found the tumor submitted to you for examination.

Report of the Committee on Morbid Growths.—"A section made from the diseased portion of the œsophagus presented by Dr. Clark is found, upon microscopical examination, to have its mucous surface in greater part destroyed by ulceration. At the margin of the ulcer the mucous membrane is seen to have an increase of the laminated epithelium, the inter-papillary processes being very much enlarged, branching, and extending into the submucous tissue; also in this latter tissue are observed cylindrical collections of epithelial cells, separated by a highly-inflamed fibrous connective tissue. The new formation is a squamous epithelioma."

"January 22, 1880."

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GLEANINGS FROM EXCHANGES.

Renal Inadequacy.—At a recent meeting of the Medical Society of London (*Lancet*, vol. ii., 1879, November 29) Dr. Andrew Clark read a paper on "Renal Inadequacy." He said, "By renal inadequacy I mean that state of the kidney in which it is unable, without material diminution of quantity, to produce a urine containing the average amount of solids and of a specific gravity greater than 1014." The deficiency of solids chiefly affects the urea and uric acid. The urine is pale, almost invariably free from albumen, and deposits no casts. He did not profess to determine what was the exact pathological state of the kidney; but he conjectured that it was one of slight withering and induration, just as sometimes the skin is found withered, hard, and incapable of producing a true unctuous sweat. This renal inadequacy had, so far as he could see, no characteristic symptoms, and we find it out only by searching for a cause which shall be found adequate to the explanation of the patient's trouble. The symptoms and signs most commonly associated with renal inadequacy are flatulent dyspepsia; palpitation, with a very feeble and interrupted capillary circulation; a dry, shiny, waxy skin; numbness, tingling, cramps and pains in the limbs, occasional flushes, worry of brain, and general nervousness; sometimes thickening of the terminal joints of the fingers, and sometimes, but rarely, evidences of gout. One knows in a given case that these symptoms are due to renal inadequacy, not merely because there is a grave deficiency in the excretion of urinary solids, but because whatever diminishes that secretion, or whatever adds to the amount of solids to be excreted, invariably within a short time aggravates the patient's sufferings. Three things are of great importance in these subjects. They are exceedingly vulnerable; they repair very slowly the damage done by accident or disease; they bear very badly the shock, however slight, of surgical operations,—a fact mentioned by Sir James Paget (Clin. Lectures, p. 44). As to prognosis, this state seems capable of indefinite prolongation without serious secondary injury to the organism. Under unfavorable circumstances and bad management death may occur from some local inflammation, from cerebral or other hemorrhage, or from the so-called pyæmic fever, springing unexpectedly out of some, perhaps trifling, surgical operation. Patients who have been the subject of renal inadequacy for over four or five years "have at least a marked and striking physiognomy; they increase in flesh; they become puffy without being distinctly œdematous; the skin becomes dryer, more shiny, and yellower, the features swollen almost to distention; the pupils are dilated, the lips and cheeks of a bluish red, the articulation deliberate and somewhat difficult, and the whole intellectual tone and manner subdued and slow." From one side the physiognomy is like that of pernicious anæmia, from another like that of chronic Bright's disease, and yet it seems distinct from both. As to treatment, the tepid bath, followed by vigorous friction, the use of warm clothing, and the avoidance of passing exposure to cold and damp, with gentle exercise daily in the open air, are indicated. The diet should be light; stimulants should be avoided. The medicines found most useful are small doses of arsenic, with reduced iron at meals, and an occasional mercurial alterative. If digestion is disturbed, he discontinues the iron and arsenic, giving the patient bitters with alkalies between meals, and a mercurial alterative every third night for two or three times.

Fungus-Poisoning and its Treatment.—Muscarine, the active principle of poisonous mushrooms, is antagonized by atropia. When given internally in medicinal doses it produces sweating, salivation, lachrymation, purging, and contraction of the pupil, whilst atropia, as is well known, dries the skin and mouth and dilates the pupil. The antagonism existing between these two great principles can be shown by a very simple physiological experiment. If the minutest trace of muscarine be applied to a frog's heart, its contractions immediately become slower and more feeble, and after a few minutes are completely arrested. If now a drop of atropia be applied to the motionless heart, its action is at once completely restored, and the pulsations continue as if nothing had happened. It is found that in this way a heart may be revived after being motionless for nearly four hours. Brunton has shown that in mammals atropia at once counteracts the effect of muscarine on the heart, just as it does in frogs. In a case of mushroom-poisoning vomiting should be promoted by tickling the fauces, or other means, and a minim of liquor atropiæ should be injected hypodermically, and repeated at intervals, if necessary, until the urgent symptoms have subsided. Although atropia is the best it is probably not the only antidote to muscarine. Ringer and Murrell have shown, in recent papers in the *Journal of Physiology*, that pituri, duboisia, and pilocarpine will all antagonize the action of muscarine on the heart. The antagonism of pilocarpine for extract of aminita muscaria is less marked than that of atropia or duboisia. Thus, atropia and duboisia will increase the pulsation of a heart stopped by muscarine thirty beats in a minute, whilst pilocarpine augments the beat only about eighteen in the minute; nevertheless it is found that the increase in the strength is as great after the application of pilocarpine as of atropia or duboisia. It is a remarkable fact that pilocarpine, a sweater and salivator, which slows and weakens or arrests the frog's heart, should antagonize muscarine, which is also a sweater and a salivator and stops the heart.—*Lancet*, vol. ii., 1879, p. 810.

CHOLELITHIASIS AS A CAUSE OF CIRRHOSI HEPATIS.—Cases of cirrhosis due to cholelithiasis have been recorded by several observers, but they are still so rare that the following case from the practice of Dr. Roller, of Treves, possesses considerable interest. A woman, 69 years of age, who had never been addicted to drink, died after suffering for some months from the usual symptoms of cirrhosis of the liver. The autopsy showed general peritonitis of old standing, with signs of a recent inflammatory exacerbation; a perfect anatomical picture of interstitial hepatitis; a gall-bladder presenting the residue of old inflammation, and containing a large gall-stone. As in this case alcoholism could be absolutely excluded, the gall-stone was regarded as the primary cause of the hepatic disease. The various steps of the morbid process were thought to be as follows. First, the gall-stone excited an inflammation of the gall-bladder which resulted in thickening of its walls. From this starting-point the inflammation extended in all directions, but particularly to the transverse colon, as was evidenced by the thickness of the adhesions which bound the right flexure to the gall-bladder. The inflammation crept into the liver along the pathways furnished by Glisson's capsule; here it led to the development of new connective tissue and the resulting cirrhosis.—*N. Y. Med. Record;* from *Berliner Klin. Wochen.*, No. 42, 1879.

THE ELECTRIC LIGHT IN SURGERY.—On December 11 Mr. Berkeley Hill operated at University College Hospital for vesico-vaginal fistula, using an electric light. This consisted of a glowing platinum wire enclosed in a glass chamber, which was itself enclosed in another glass cover. Between the two a current of water flowed. It worked very successfully.

MISCELLANY.

DEFINITION OF EVOLUTION.—The *Chemist and Druggist* observes that it was Herbert Spencer who made the following definition of evolution: "Evolution is a change from an indefinite, incoherent homogeneity to a definite coherent heterogeneity, through continuous differentiations and integrations." And it was the mathematician Kirkman who translated the definition into plain English: "Evolution is a change from a nohowish, untalkaboutable, all-alikeness, to a somehowish, and in general talk-aboutable, not-at-all-alikeness, by continuous somethingelseifications and sticktogetherations."

GIACOMINI'S PROCESS FOR HARDENING THE BRAIN.—Giacomini's process for hardening the brain is, 1, to place it in a fifty per cent. solution of zinc chloride for ten or twelve days; 2, then in alcohol for ten days; 3, then immerse it in glycerin with one per cent. of carbolic acid; 4, when sufficient glycerin has been absorbed, it is set aside to dry, and then varnished with gum elastic. It is now firm enough to be handled, and looks like a wax model.

GERMAN EYE AND EAR INFIRMARY.—In the year 1879 there were gratuitously treated in the dispensary of the German Eye and Ear Infirmary (Dr. M. Landesberg, surgeon in charge), 441 North Fifth Street, 1326 patients, of which number 917 were for eye diseases and 409 for ear diseases.

The number of important operations performed in the institute was 101; of minor operations, 167.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 25 *TO FEBRUARY* 7, 1880.

HEGER, A., MAJOR AND SURGEON.—So much of the order as directs him to proceed to San Antonio, Tex., on or before February 1, 1880, is amended to read on or before February 20, 1880. S. O. 19, A. G. O., January 26, 1880.

WHITE, C. B., MAJOR AND SURGEON.—His leave of absence on Surgeon's certificate of disability, granted him July 24, 1879, extended six months, on Surgeon's certificate of disability. S. O. 20, A. G. O., January 27, 1880.

TREMAINE, W. S., CAPTAIN AND ASSISTANT-SURGEON.—His extension of leave of absence on Surgeon's certificate of disability, of November 11, 1879, further extended twelve months on account of sickness, with permission to go beyond sea. S. O. 18, A. G. O., January 24, 1880.

DE HANNE, J. V., CAPTAIN AND ASSISTANT-SURGEON. Granted leave of absence until further orders, on account of sickness, to take effect February 1, 1880. S. O. 26, A. G. O., February 3, 1880.

BYRNE, C. B., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him December 20, 1879, from A. G. O., extended four months. S. O. 27, A. G. O., February 4, 1880.

CUNNINGHAM, T. A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 11, Department of Dakota, January 26, 1880.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 28, 1880.

ORIGINAL COMMUNICATIONS.

A STUDY OF THE CATARRHAL CONDITIONS OF THE STOMACH, WITH ILLUSTRATIVE CASES.

BY LOUIS STARR, M.D.,

Physician to the Episcopal Hospital, Philadelphia.

SECONDARY CATARRH.

IN obstructive cardiac disease, in cirrhosis of the liver, and in certain pulmonary affections (for example, chronic bronchitis and emphysema), a secondary catarrh of the gastric and intestinal mucous membranes is rarely absent, the lesion being due to blocking of the portal circulation, leading to over-filling of the gastro-intestinal capillary vessels.

Limiting attention to the stomach, we find that when the hyperæmia is moderate in degree, and of long standing, the mucous membrane becomes thick and firm, slate-gray or even brown in color, mammillated, and covered with a grayish, tough, adherent mucus. If, on the contrary, the congestion is recent and intense, the mucous membrane presents various shades of vivid redness, and occasionally patches of ecchymosis, it is œdematous and granular in appearance, and is covered with tenacious mucus. The latter — the subacute — form of secondary catarrh occurs very much less frequently than the chronic form. The following history, however, furnishes a very complete illustration of the symptoms and morbid appearances:

Case I.—Charles ——,* æt. 44, a sailor, of temperate habits, was admitted to the medical ward of the Episcopal Hospital on September 26, 1879. He had been able to attend to his duties on shipboard until March, 1879, when he began to have paroxysms of palpitation and breathlessness, associated with severe epigastric pain and vomiting. After resting for three weeks, the abdominal symptoms disappeared, but palpitation and dyspnœa continued to be so readily excited by exertion that he was unable to resume work.

The attack for which he entered the hospital commenced in the same manner, on September 23. When admitted, he was very weak; his nose, lips, and nails were blue; his conjunctivæ were slightly yellow, and his skin felt cool to the hand. The pulse counted 88, and was rather jerking in character. The cardiac dulness was increased; the apex-beat was indistinct, and was situated in the sixth interspace, on the left nipple-line; in the epigastrium there was a strong transmitted impulse. On auscultation, a double murmur could be distinguished at the apex, and a soft systolic murmur at the aortic cartilage. The respirations were 60 per minute, were attended by movements of the nostrils, and he had some cough, with a slight frothy expectoration. Over the lower posterior portions of both lungs fine mucous râles were heard; there was no impairment of the percussion-resonance.

The patient complained of great pain in the epigastrium, extending towards the back; his tongue was swollen and covered with a white fur; he had much thirst, very little appetite, and when food was taken it seemed to lie as a weight at the cardiac extremity of the stomach, and considerably augmented the pain. There was nausea without vomiting, and the bowels were moved daily. The epigastrium was distended, dull on percussion, and tender to the touch. The left lobe of the liver was displaced downward, occupying the whole of the epigastric region and the upper part of the umbilical region; the right lobe extended a short distance below the costal border anteriorly. The urine was normal.

Under absolute rest in bed, a carefully regulated diet, consisting of milk, meat-broths, eggs, and farinaceous preparations, with moderate doses of infusion of digitalis and of tartrate of iron and potassium, the symptoms steadily improved until October 11, the epigastric pain and nausea disappearing, the appetite returning, and the respiration falling to 24 a minute. From October 11 to 24 there were frequent paroxysms of palpitation, dyspnœa, pain, and nausea. During the next fortnight he had only occasional, trifling attacks of dyspnœa at night; he was often able to be out of bed for several hours at a time; the lividity of the face and nails passed away; the surface felt normal in temperature; the respiratory movements ranged from 24 to 26, and the pulse about 84. His tongue was clean, he ate moderately well, and there was no nausea or abdominal pain.

On November 6 the nausea and pain returned, and on the 7th he had relapsed into a worse condition than on admission, obstinate vomiting being added to the other symptoms. After this his tongue became heavily coated, he had a disagreeable taste in his mouth, complete anorexia, and an urgent desire for acidulated drinks. There was constant nausea, severe burning pain in the epigastrium, and the ingestion of food caused increased suffering, and was quickly followed by vomiting, the material ejected consisting of food only slightly altered, and of tenacious, rust-colored mucus, somewhat resembling pneumonic sputa. The gastric tympanitic percussion-note could be elicited over an unusually extended space. The bowels were moved daily, the stools being scanty, scybalous, and clay-colored. The respiratory movements were much increased in frequency, and the physical signs of œdema were present at the bases of both lungs. The pulse was feeble and irregular. He lost flesh rapidly; his face assumed an anxious expression; the cyanosis became deeper; his feet, legs, and genitals grew œdematous, and the urine albuminous. Attempts were made to relieve the gastric irritability by alkalies and dilute hydrocyanic acid, to supply nourishment by the rectum, and to support the heart by digitalis, but without success. Death occurred on the evening of November 13.

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* History taken from the ward notes of Dr. H. D. Harvey, resident physician.

At the autopsy, besides very great cardiac enlargement and marked lesion of the mitral valve, the *stomach* was found to be dilated to nearly twice its normal size, the mucous membrane was thickened, granular, crimson in color, with many points of ecchymosis, and covered with a thick layer of adherent mucus. The mucous membrane of the intestines was also intensely congested. The liver weighed five pounds; it was engorged with blood, and the surface, especially near the anterior margin, was uneven, as if cirrhotic change had begun. The kidneys were simply congested.

The symptoms of chronic secondary catarrh are similar to those of the same type of primary or idiopathic catarrh, with certain modifications and additions depending upon the condition producing it. The treatment of either of the secondary forms, beyond the employment of palliatives to lessen gastric irritability, resolves itself into that of the causative lesion, whether this pertains to the heart, the lungs, or the liver.

PRIMARY CATARRH.

Idiopathic gastric catarrh, either in the acute or chronic form, occurs more commonly than the secondary variety. The secretion of the gastric juice is always accompanied by marked hyperæmia of the mucous membrane of the stomach, which in turn is followed by a flow of mucus and the detachment of a quantity of epithelial cells. In other words, in healthy digestion a series of alterations take place in the mucous coat of the stomach, which, occurring in another mucous membrane, as the nasal or bronchial, would be considered abnormal, and designated by the term "catarrhal." Now, since the act of digestion is usually repeated three times daily, and extends over a considerable period, it is easy to understand the facility with which, in the presence of an irritant, the normal hyperæmia may pass into acute catarrh, how, if the irritation is persistent, the catarrh becomes chronic, and also why the catarrh, as it is simply an exaggeration of a normal process, subsides more readily than the same condition of other mucous membranes.

The pathological appearances in primary and secondary catarrh differ only in degree, the changes, as a rule, being most marked in the latter. An opportunity of observing the morbid conditions in either type of idiopathic catarrh is rare, and particularly so in the acute form, both on account of the almost uniformly favorable termination and because any ordinary amount of hyperæmia entirely disappears with death. In fact, though the changes characteristic of the chronic form are sometimes demonstrable on the post-mortem table, death having been produced by some incidental cause, those belonging to the acute form are mainly inferred from the study of the catarrhal state in visible mucous membranes, and from the experiments of physiologists. Clinically the acute and chronic forms present many points of contrast.

THE ACUTE FORM.

Acute catarrh of the stomach may follow exposure to cold and wet, but is usually caused by improper food or by intemperance in eating or drinking. In experimenting upon St. Martin, Dr. Beaumont found that whenever irritating food or immoderate quantities of stimulants were consumed the mucous membrane of the stomach became temporarily much congested and the secretion of the gastric juice greatly diminished, and that while these conditions lasted there was more or less general discomfort.

The catarrh produced by taking excessive quantities of food or by food of bad quality depends less upon the material itself than upon the irritating products of the decomposition taking place when it remains in the stomach imperfectly digested. On the contrary, catarrh resulting from the abuse of alcohol or condiments, and from swallowing very hot or cold substances, depends upon a direct action on the mucous membrane, augmented in the case of alcohol by an arrest of the digestion and the subsequent fermentation of whatever food the viscus contains at the time of the debauch.

In a patient recently under my care the catarrh was produced by a cause which, although probably often observed under favorable circumstances, has been active in very few of the cases that have come to my notice. The clinical record runs as follows:

Case II.—Mary ——,* æt. 17, a child's nurse, was admitted to the women's medical ward of the Episcopal Hospital on December 3, 1879. Nearly three weeks before, being at the time in perfect health, she left her home in Wales to come to America. When the steamer was one day out she became, as she expressed it, "fearfully sea-sick." During the rest of the passage, which lasted fourteen days, she vomited continuously, and was so ill that it was necessary to move her from the steerage into more comfortable quarters in the cabin.

When admitted to the hospital, forty-eight hours after landing, she complained of malaise and general prostration. Her face was flushed, her eyes were heavy, she had frontal headache and giddiness, and her skin felt hot to the hand. Her tongue was red and glazed; her mouth was dry; there was great thirst; anorexia; nausea and vomiting after the ingestion of food; the bowels acted daily. The abdomen was normal. The heart and lungs were healthy; the pulse was 100, and rather feeble; the respiratory movements were unaltered in frequency. The urine was passed freely, was turbid, had a specific gravity of 1.021, was acid in reaction, and non-albuminous.

She was put directly to bed; three fluidounces of milk, with one fluidounce of lime-water, were given, at intervals of two hours; ice was allowed in moderate quantities to relieve the thirst, and two fluidrachms of mistura potassii citratis were administered every three hours.

After commencing this treatment there was no more vomiting, and her condition rapidly improved. On December 5 she was able to take some farina with milk, and subsequently food was given at longer intervals, and was gradually increased by the addition of bread, meat-broth, and chicken, until, on the 9th, she was on full diet, taken at the ordinary meal hours. At this date the only remaining symptoms were poor appetite and slight weakness. The neutral mixture was stopped, and a prescription, each dose of which consisted of ten grains of pepsin and ten minims of dilute muriatic acid in syrup of lemon and water, was directed to be given after each meal. She was discharged, perfectly recovered, on December 15.

In the next case sea-sickness intensified and prolonged a pre-existing acute catarrh of the stomach.

Case III.—Isaac ——,† æt. 51, temperate, was admitted to the medical ward of the Episcopal Hospital on the evening of September 4, 1879. He stated that his health had always been fairly good, though he was subject to occasional attacks of gastric catarrh, or, in his own language, "biliousness." The illness for which he sought relief at the hospital began five days before, with abdominal pain, vomiting, and general prostration. Having an opportunity to officiate as cook on a steamer plying between Philadelphia and Boston, and thinking that a sea-voyage would benefit him, he accepted the position. During the passage he was extremely sea-sick, vomiting continuously, and eating little or nothing.

When admitted, only a few hours after reaching port, he was very weak, his skin and conjunctivæ were slightly yellow, his pulse was 60 per minute and very feeble, and there was considerable mental depression. His tongue was lightly coated, moist, and indented by the teeth; there was anorexia, thirst, and constant nausea, and his bowels had not been evacuated since the beginning of his sickness. The abdomen was natural in shape, there was some tenderness in the epigastrium, and palpation increased the sense of nausea. The urine was normal.

He was put to bed, equal quantities of milk and lime-water were ordered in small doses at short intervals, and five grains of calomel were administered.

On September 5, as there was still some nausea, though no vomiting, a mustard cataplasm was applied to the epigastrium, and five grains of bicarbonate of sodium were ordered four times daily. The action of the calomel was assisted by an enema, and several stools were obtained.

On September 7 the patient was in good spirits, and the gastric condition had improved so much that he was able to take the hospital "soft diet,"—milk, meat-broth, farina, eggs, and bread. On the 8th he asked for his discharge and returned home.

Acute catarrh is usually accompanied by pyrexia, as in Case II., and frequently by sallowness of the complexion, as in Case III., this symptom, sometimes amounting to a slight degree of jaundice, depending upon congestion of the liver. So far as the other features are concerned, these cases afford a very fair picture of the disease as ordinarily encountered, the tongue being more commonly covered with a white or yellowish fur than red and glazed, as in the nursemaid, and the bowels being more commonly confined or irregular than evacuated daily.

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* History taken from the ward notes of Dr. T. H. Cathcart, resident physician.

† History taken from the ward notes of Dr. H. D. Harvey, resident physician.

A most essential point in the treatment is a proper regulation of the diet. The most uniformly applicable food is milk. Care must always be taken to secure milk of good quality, the urgency of the symptoms in each case being a guide both to the quantity and the frequency of administration. When there is considerable nausea and frequent vomiting, from two to three fluidounces of milk, with one fluidounce of lime-water, every two hours, will usually be retained without difficulty. Such a plan, supposing the feeding to be discontinued through the night (which, by the way, should always be done, unless otherwise demanded by excessive prostration, if there is a tendency to sleep), supplies about sixteen or twenty-four fluidounces of milk per diem. This is certainly a short allowance, but, independently of the rest afforded the stomach, the fact is unquestionable that a small amount of food retained furnishes more nourishment than an infinitely larger quantity vomited directly on ingestion. If the irritability is too great for the retention of these doses, the same combination of milk and lime-water must be given in diminishing amounts at correspondingly short intervals, until the proper measure, if it be only a teaspoonful, is reached. On the contrary, when the vomiting is less obstinate, or as the patient improves, the doses and intervals should be increased, and as opportunity offers the diet gradually extended, by the addition of farinaceous articles, broths, chicken, etc., until the ordinary food is resumed.

Very exceptionally, milk and lime-water cannot be retained. When this happens, it is best to abandon the milk diet altogether and substitute carefully-prepared beef-tea or chicken- or mutton-broth, entirely free from fat, in doses of two fluidounces every three hours. Beef-juice is also serviceable under these circumstances. I have never had occasion to use either whey or artificially-digested milk,* each of which is highly recommended in obstinate vomiting.

Thirst, which is often a distressing symptom, is best relieved by the moderate use of ice, the ingestion of large draughts of water tending to prolong the vomiting.

Until the active symptoms have subsided, confinement to bed is necessary.

Having regulated the diet and enforced complete bodily rest, the patient is put far on the way to recovery; but still much may be done by medication to shorten the illness. At the beginning of the attack, if the bowels are obstinately confined, and particularly if the skin or conjunctivæ are at all yellow, I direct in the evening three grains of "blue mass" or five grains of calomel, to be followed in the morning by a Seidlitz powder; when the constipation is moderate, the lower bowel is simply evacuated by an enema. At the same time, either bicarbonate of sodium or citrate of potassium in the form of mistura potassii citratis, or preferably the "effervescing draught," is prescribed.

The bicarbonate of sodium, employed most frequently, is administered in ten-grain doses, three or four times daily, mixed with a tablespoonful of milk or compressed into a pill. The citrate of potassium is usually reserved for cases where considerable fever is associated with the sick stomach. The "effervescing draught" is much more agreeable and efficient than the "neutral mixture:" it is ordered in two solutions,—one composed of two drachms of citric acid to four fluidounces of water, the other of one drachm of bicarbonate of potassium to three fluidounces of water; half a fluidounce of each are put together and taken during effervescence, the dose being repeated every two or three hours. This mixture is yet more pleasant if equal quantities of lemon-juice and water are substituted for the citric acid solution.

In addition to these medicines, sinapisms or linseed poultices are applied to the epigastrium.

Often, upon the decline of the acute symptoms, a condition of general debility and enfeebled digestion supervenes. The alkalies are then discontinued, and ten grains of pepsin, with fifteen minims of dilute muriatic acid, given, well diluted, thrice daily after eating. Should the bowels be constipated during convalescence, a pill, composed of pulv. ipecacuanhæ gr. j, cinchonidiæ sulph. gr. ij, and pil. aloës et myrrhæ gr. ij, is ordered after dinner. This pill, a modification of an old formula, possesses the great advantage of retaining its powers on repetition; sometimes, indeed, it has been necessary to reduce the dose gradually in order to prevent overaction.

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* "To each ounce of cow's milk add five grains of pure pepsin and four drops of dilute hydrochloric acid. Digest this in a water-bath at a temperature of 100° F. After a time the mixture becomes clear. Then neutralize the acid with bicarbonate of soda, and the milk is ready for use."—Eustace Smith, Wasting Diseases of Children, 3d edition, p. 43.

(To be continued.)

RESEARCHES ON HEARING THROUGH THE MEDIUM OF THE TEETH AND CRANIAL BONES.

BY CHARLES HERMON THOMAS, M.D.

Read before the Philadelphia County Medical Society, December 17, 1879.

IN presenting the results of my investigations and experiments on the means and methods of transmitting vocal sounds to the internal ear by the way of the teeth and cranial bones, I shall but briefly describe the two instruments which have been exhibited here to-night, and which have received so large a measure of public attention during the past few weeks.

It will be seen that the principles upon which their action is founded are not new to us; indeed, are very generally known; but the remarkable results obtained by the application of these principles in the audiphone and dentaphone* have fallen as a surprise alike upon the general public and the medical profession. The audiphone† resembles in form a Japanese fan, and is composed of vulcanite. When in use it is slightly bowed by cords connecting the handle and the upper edge, which edge is to be held in contact with the eye-teeth of the hearer, the convex surface being turned towards the source of sound. The dentaphone‡ is of the same model as a telephonic mouth-piece, its diaphragm being perforated at the centre for the attachment of a string, which serves to connect it with a small bit-piece, the latter to be held between the teeth of the hearer, who with one hand extends the mouth-piece with its opening towards and close to the face of the speaker, keeping the string in a state of tension.

Hearing through the medium of the teeth and cranial bones is certainly not a novelty; on the contrary, the knowledge that sound may be thus conveyed has long been made use of for a variety of practical purposes. The application of the tuning-fork by aural surgeons in diagnosis is an instance familiar to all present. A patient of mine, whose hearing was much impaired in early life by scarlatina, informs me that in order to learn if his watch was running he has for many years been in the habit of placing it between his teeth, and of testing his clock also by applying his teeth to the mantel on which it stands, being otherwise unable to hear either of them. The same patient in his youth was accustomed to listen for the approach of a railroad train by placing his teeth upon the track; in this manner he was able to hear it some time before those who were about him, and who had normal hearing. A deaf friend enjoys music by placing one end of his cane against the piano and the other against his teeth. Another patient, an experienced engineer in charge of a stationary engine, has always practised listening to the sounds of its valves by placing one end of a stick upon the part nearest them and the other against his teeth, meanwhile stopping his ears with his thumbs, he having been taught this method as a part of his trade many years ago.

It has also been known that sound-waves produced in the air are communicated to contiguous bodies, causing them to vibrate in unison, though with varying degrees of intensity according to the density, elasticity, and form of such bodies. Furthermore, it was well known that vocal sounds were no exception to this rule, and that these, as well as others, could be transmitted, under suitable conditions, as longitudinal vibrations through long distances, as witness the familiar examples of the so-called "lovers' telegraph" and boys talking through a fence-rail. All this being known, it appears that a happy accident was all that was required to show that the complex vibrations of articulate speech as reproduced in solids might be conveyed through the teeth and cranial bones, and thus be rendered audible, as were the simpler sounds before mentioned; and, at the same time, to furnish a suitable means to accomplish the object.§

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* The names "Audiphone" and "Dentaphone" being claimed as trade-marks, and being otherwise objectionable, I propose the name *Osteophone* as a general term to be used for all appliances—including the above—intended to aid hearing by conveying articulate sounds to the ears through the medium of the cranial bones; the teeth not being essential factors.

† Patented September 23, 1879.

‡ Patented November 18, 1879.

§ Miss Van B—n, a lady of high standing in a neighboring State, writes me as follows: ". . . . Seven years ago I was

The chief significance of this discovery is that through the use of proper appliances, such as the audiphone and dentaphone, useful hearing may be restored to many persons otherwise deaf.

My knowledge of these instruments and the results claimed for them led me to undertake a series of observations and experiments with a view (1) to demonstrate the principles upon which their action is founded; (2) to determine the practical value and range of use of these instruments; (3) to devise other and more convenient and less conspicuous forms of mechanism which might be substituted for them; (4) to improve the quality and increase the volume of the sound conveyed; (5) to discover new physiological and pathological facts relating to the functions of vocalization and hearing; and (6) to throw open to professional, and so to public, use the results gained, thus supplying data for further investigation and invention freed as far as possible from the restrictions which patents impose.

These researches involved the examination and oft-repeated re-examination of many deaf and partially deaf persons, the construction of new mechanism, and the testing, in different forms and under varied conditions, of a great variety of materials. In all this labor I had the valuable assistance of Dr. Edward C. Kirk, who will aid me in the repetition of several experiments* before you to-night.

Before going farther, let me say that, though a number of novel results will here be shown, and some of them not without practical value, it is my opinion that osteophony as a subject worthy of study is not nearly exhausted, and that the future will develop other and far more useful applications of the method than have yet been reached.

The conclusions arrived at, briefly stated, are as follows:

I. As has been indicated, both the audiphone and dentaphone depend for their action upon the principle of acoustics that solids—in this case in the form of thin plates—vibrate in unison with the sound-waves produced in the air near them. In these instruments the vibrations are of sufficient force to be audible when conveyed to the internal ear through the medium of the teeth and cranial bones, independently of the ordinary channel of hearing,—the transmission being direct in the audiphone and indirect through the conducting string in the dentaphone.

Though, within certain limits, sound-vibrations in solids are readily conducted in this manner,—becoming audible in all cases where the internal ear is intact,—the relatively slight vibrations produced in dense substances by sound-waves propagated in the air near them are not recognizable as sound, except where the normal exercise of the function of hearing is suspended by disease of the middle ear or obstruction of the external portion of that organ. Normal hearing so far exceeds that obtained by the means in question as to render the comparatively small addition made through them inappreciable and as nothing in the presence of the greater sensation.

The size of the sound-receiving sheet governs the distance at which the instruments will act, and the dimensions must be increased in proportion as the source of sound is removed. The audiphone is, therefore, much better adapted than the dentaphone for use at a distance, the latter being only suited to transmit sounds emitted near its mouth-piece. The bowing strings of the former are not at all necessary to its perfect working, as its arched form may very conveniently be given to it by the hand, pressing its upper edge against the teeth. Not tension, but the arched form is the condition essential to its proper action, for this form is that best adapted to impart the impact of sound-waves against its convexity, which is then expended in the form of a thrust of the arch against the teeth, these forming one of its abutments.

II. That these instruments are of great value in a considerable proportion of cases of deafness there is no reason to doubt, but there is no just ground for the public

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using a Japanese fan, and, happening to put it within my teeth, found, to my surprise, that the conversation of those around me was audible. Almost fearing it was not so, I made several experiments, and found it to be a fact. Any one that has been deprived of the sense of hearing may imagine my delight and thankfulness to a kind Providence. I use it constantly, and find it a great help. . . . ."

* There were present two patients, upon whom the various appliances herein described were tested in the presence of the Society. The following experiment was also shown. A string one hundred feet long was stretched from the face of a guitar placed in the auditorium, there to serve as a sounding-box, to a tense diaphragm located in a distant room, where an assistant was posted, whose voice, as in the repetition of the alphabet, was made distinctly audible to every one in the hall through the volume of resonance developed in the guitar. On removing the guitar and placing the end of the string in the grasp of the teeth of a deaf lady, and the same sounds being repeated by the assistant, she was able to hear and instantly to duplicate them, though they could now be heard by no one else in the audience.

belief that with their aid the deaf are enabled to hear as well as those with ordinary hearing. On the contrary, they supply, I am convinced, but a very small fraction of normal hearing,—much *less* than a *hundredth part.* Neither instrument adds in the slightest perceptible degree to the hearing of those with perfect ears, except when the latter are securely stopped. I have repeatedly tested both instruments with this question in view, choosing as subjects those receiving from them decided benefit in listening to conversation and otherwise, and have as yet found no case in which a loud-ticking watch was heard when held close to the centre of the sound-receiver. Furthermore, when the watch was placed upon a large Koenig resonance-box, thus multiplying the sound many times, and this placed so near to the diaphragm as barely to escape contact with it, still no sound was heard. Considering the law of acoustics, that the intensity of sound is inversely as the square of the distance of the sonorous body from the point at which it is heard, and taking into account the distance at which the sound described should be heard by the normal ear, my estimate of the strength, or rather the weakness, of the sound conveyed by these instruments will be seen to be justified. It is important that this be taken into account, for large numbers of the partially deaf suffer such disappointment at their failure to hear in full that they undervalue or altogether disregard a positive gain of many times their usual hearing. The difference between normal hearing and that derived through these means is hardly less marked than that between sunlight and candle-light; nevertheless, this very small fraction is of priceless value in many cases, for to those who practically hear nothing without them, who sit in acoustic darkness, the gain is all the difference between nothing and something,—scarcely less than infinity.

In view of certain strongly expressed statements which have obtained currency, the results to be derived from the use of the audiphone in deaf-muteism are likely to prove very disappointing. Repeated tests show that those who are able to hear with the aid of the audiphone hear *their own voices* perfectly without it; while those who are unable to hear their own voices without it can hear no other voice with it. Cases in which the dumb are so by reason of middle- or external-ear deafness, while yet retaining in the internal ear the capability of hearing, must be extremely rare, but only in so altogether exceptional a case could it be of use, enabling the subject to hear sounds which might afterwards be imitated.

This class of instruments should be in the hands and under the special direction of physicians, among other reasons, because caution is necessary to prevent their being relied on to the neglect of proper examination and treatment of the ears. Probably the most striking results to be found from their use would be in obstruction of the external ear by impacted cerumen; but manifestly it would be malpractice to make use of such means instead of effecting the removal of the offending material.

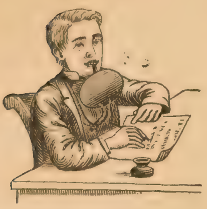
Practice is required in using either instrument, especially in cases where hearing has long been abolished, and the suggestion which has been made, to read aloud to the patient while he follows the printed words with the eyes, is a good one. Besides this, practice with the watch or tuning-fork against the teeth, thus directing the attention to receiving the sound through the new channel, will prove valuable as an educator of the disused sense. The rod osteophone—hereafter to be described—has a special value for the same purpose.

It is perhaps too soon to decide the relative merits of the speaking-trumpet and these appliances, but enough is known to render it probable that the osteophone will either substitute or supplement the former in many instances: certainly it is far more agreeable for most persons to talk to the latter.

III. The audiphone is open to the objection that during its use it obscures to a certain extent the features of the user, and the dentaphone is held more or less in the line of vision. Both instruments are open to the still more serious objection that they each require the constant service of at least one hand during their use. With neither can the user hear when his hands are engaged in other employment.

To remedy these defects I have made the following device. A large receiving diaphragm is attached, in an arched form, to a rod of wood or metal. The rod is bent in the form of a pipe-stem, one end of which is to be held firmly between the teeth, as a pipe is held (Fig. 1), thus enabling the user to listen to sounds about him, and, at the same time, leaving his hands free for other occupation. The diaphragm being below and away from the face, it is comparatively inconspicuous.

Fig. 1.

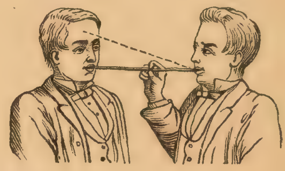


Ornamental fans of almost all sorts may be utilized for occasional use, and, when coated with shellac and tipped with ivory or hard rubber, may be made to answer fairly well, though they will prove unsatisfactory for ordinary uses. Many other forms of instruments have been found to answer the purpose of conveying vocal vibrations: thus, a piece of yellow pine wood, turned out into trumpet-shape, about two feet long, with an expanded end three inches in diameter, may be used for conversation, the small end being applied to the teeth of the deaf person and the opposite end held close to the mouth of the speaker. In this manner a very good volume of sound is conveyed. A tense string connecting the upper teeth of the two about to converse also answers the same purpose.

IV. The tone of the voice differs materially when conveyed by different substances. Where these are lacking in resonance (as in celluloid and binders' board), flatness is the result, while others which are over-resonant or over-persistent in their vibrations (as vulcanite and ferrotype metal) yield ringing or confused sounds. The quality needed is that possessed by good sounding-boards, of instantly responding to contiguous sounds and maintaining them during their continuance, and also of instantly ceasing to vibrate upon the cessation of the causative sound. This right sort of elasticity of resonance, that capable of reproducing human voice-tones in their purity, is possessed to a high degree by fullers' board (or press-board), which, when treated with shellac varnish and thoroughly dried, has proved not only far better than other paper or cardboards,* but is also a great improvement upon the sheet metals or hard rubber; lacking the "reverberations" and "roaring sounds" of the latter, as they are described by different patients upon whom they have been tested. Besides, owing to its greater elasticity, it is less destructible than either these or the thin sheets of wood which otherwise answered the purpose, while its cost is but trivial.

The simplest osteophone, one that excels by many times in the volume of sound transmitted either audiphone or dentaphone, consists simply of a small rod of hard wood,—a convenient size being about two feet long and a quarter of an inch thick,—one end of which is placed (Fig. 2) against the teeth of the speaker, the other resting against or between the teeth of the person hard of hearing. If the speaker now articulates in a natural tone of voice, the vocal vibrations will be transmitted in great volume through the teeth and thence to the ears of the deaf person.†

Fig. 2.



V. A physiological fact, not duly recognized or appreciated hitherto, so far as I am aware, is that sensible vibrations, produced by and corresponding to those of the voice, are propagated in the hard palate and base of the skull of persons speaking in ordinary tones. These vibrations are found to be transmitted throughout the skull with varying degrees of intensity, according to the point of observation chosen. In some localities—as the forehead, the front teeth of the upper jaw, and the top of the head—which are specially vibratory, these are so powerful as to be readily felt during the act of speech by the hand grasping a rod—a common lead-pencil will answer—one end of which is pressed against the part. They may also be evidenced as articulate sounds, and distinctly heard as such through the use of the rod-osteophone, for, as has been observed, by its means the volume of sound consciously received is a perceptible addition to ordinary hearing. The existence of such vibrations accounts for the further fact, before mentioned and which I have taken much pains to verify, that in certain cases of extreme deafness the patient hears his own voice with the utmost distinctness, even though speaking in low tones, when like sounds produced in his very ears would be totally inaudible. It seems evident, then, that auto-audition for deaf and well alike includes among its leading factors the bone-vibrations spoken of; and the topographical relations of the larynx and the vault of the pharynx to that portion of the temporal bone which includes the internal ear supply good *a priori* grounds, if any such were needed, for reaching the same conclusion.

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* Between the date of the delivery of this lecture (December 17, 1879) and its present publication in the order of the Society's proceedings the discovery of this application of cardboard has been claimed by others. I had previously discovered and demonstrated at this meeting the adaptability of this material, together with other varieties of paper, and especially of that known as fullers' board, for diaphragms of osteophones. This was four weeks previous to the announcement, through the Associated Press of January 13, that the discovery had been made at Geneva, and antedates any other like publication in America.

† Later observations show that it will also convey the voice distinctly when placed against the forehead or other portions of the skull of the hearer. It will also convey perfectly audible speech from the skull of one to that of the other, or in its absence such sounds may be conveyed by simply bringing the heads themselves in contact. Again, instead of the speaker holding it against his teeth, he may place it against the upper part of his chest, when, upon using his voice, the sound will be conveyed as before; of course, independently of the teeth of either person.

SOME ACCOUNT OF THE SANDWICH ISLANDS, CONSIDERED AS A SANITARIUM.

BY C. A. SIEGFRIED, M.D.

DURING the third voyage of Cook, the celebrated English navigator, in 1778, he came upon the group of islands in the Pacific Ocean now known as the Hawaiian Archipelago. They lie between latitude 18° 52′ and 22° 15′ north, and between longitude 154° 42′ and 160° 33′ west, stretching in a general west-northwest and east-southeast direction, about three hundred and forty miles. Within that distance they consist of eight large islands, and four islets which are scarcely more than barren rocks; the entire group having an area of six thousand seven hundred and ninety square miles, and at present containing a population of about fifty-eight thousand,—including the foreigners,—Oahu and Hawaii having by far the greater number. In Cook's time the population, as estimated by himself, was upwards of four hundred thousand.

They continued in the same state until Vancouver,—who may be styled their first Christian missionary,—on his voyage of discovery, in 1790–95, stopped here and gave them cattle and sheep from California. At about the same time all of the islands were brought under domination by the famous Kamehameha, who began by conquering Hawaii,—his native island,—establishing himself eventually on Oahu, the most populous and fertile island of the group at that time. Kamehameha was noted for his strength of character, military skill, and bravery in battle; was of a large physique, and regular and not unhandsome features,—judging by a portrait taken of him during life by a French priest. He reigned as king till his death, in 1819. The dynasty became extinct in 1872. Kalakaua is the present sovereign, who visited the United States a few years ago.

They were Christianized and forsook their idols and the peculiar religious rite of tabu in 1820. In 1840 their political affairs were arranged by a declaration of rights and a form of constitution modelled somewhat upon that of Great Britain, and their independence was acknowledged by the principal nations. Here is presented the strange spectacle of a race of human beings emerging from a phenomenal state of barbarism and sensuality, from a religion of bloody sacrifices, to the adoption of a civilized form of government and the Christian religion within the short space of thirty years.

The islands are essentially volcanic, but coral is found interstratified with lava at great elevations, so that upheavals also must have taken some part in their formation. The mountains consist of a series of volcanoes,—active and extinct,—the peaks in many cases forming quite perfect basins, more or less strewn with decomposing lava, and covered with vegetation. The great volcanoes of Hawaii—the largest island—are rarely inactive, and contain the largest craters known; their height varies from fifteen hundred to fourteen thousand feet. The topography in the vicinity of the volcanoes is liable to great and sudden changes, as happened in 1801 at the northern extremity of Hawaii, when the volcano of Hualalai in eruption extended the coast-line in a westerly direction, filling up a large bay, and forming a headland running four miles seaward. At various times the entire face of the land contiguous to the volcanoes has been changed, valleys filled up and fertile plains overflowed. Mauna Loa, "the great mountain," has a crater nine miles in circumference; Mauna Haleakala, "the house of the sun," an extinct crater, is twelve miles, linear measure of its rim.

Since the discovery of the islands, one hundred years ago, the natives have rapidly diminished in numbers, so that they scarcely number forty-five thousand, according to the census of 1878. The causes of this remarkable decrease have been frequent wars among themselves, the introduction of syphilis and the exanthemata, and the general demoralization consequent upon a clashing of our civilization with their own simple habits of life and system of economy. They cannot comprehend the necessity of continuous human exertion, manual or mental, complex laws of society, and that eternal vigilance throughout the every-day affairs of life so essential to success; the fashion of locking up and securing houses came with the civilized foreigner.

The average Sandwich Islander is strong and well made, and is rather above the average height of Europeans; the nobles are physically superior and fairer; the skin of those much exposed is dark, olive-brown; the face is white, eyes bright and black, and the nose is full at the nostrils, without being flat. The hair is black and wavy, with no approach to woolliness. They are cheerful and fond of amusements, and are noted for their courtesy and hospitality.

The northeast trade-winds prevail for nine months of the year, depositing fertilizing showers on the northern and eastern slopes of the islands. The rainy season begins about the first of February and ends in April; at this time the trades are sometimes interrupted by northwest and southwest winds of short duration. The greatest heat is in July, the greatest cold in January. Near the sea the thermometer never rises above 86° nor falls to less than 60° F., and the annual range is 12°. Honolulu is under the isothermal line of 77° F. But nowhere with the same extent of coast-line and surface are the local climates so various: by ascending the higher lands any temperature desired may be obtained, as on the table-land of Hawaii a fire is comfortable, the average temperature being 64°, with a maximum range of 32°. The rainfall varies in the different islands, being probably greatest in Hawaii.

Honolulu, the chief city and seat of government, is on the southern and leeward side of Oahu, situated on a gentle slope and plain, at the base of the mountain-chain to the edge of the harbor. The population consists of nine thousand three hundred natives, thirteen hundred half-castes, thirteen hundred Chinese, with Americans, British, Portuguese, Germans, and French, named in the order of numerical importance. Tropical foliage is common throughout the streets and surrounding residences, while cleanliness, order, and plenty of room abound. In the three months of July, August, and September, from accurate tables of temperature taken twenty-five feet above the sea-level at 7 A.M., 3 P.M., and 10 P.M., the highest temperature observed was 80°, the lowest 70°, the extreme variation being 10°, and the average variation 5°. The northeast trades blow two hundred and seventy-two days of the year, with usually calm nights; on the remaining days the south wind takes its place or the atmosphere is calm. The force of the wind seldom or never exceeds a moderate breeze, and a gale of wind is almost unknown. When the trades strike the crests of the mountains behind the town, moisture is precipitated, and the level to which the rainfall descends is plainly marked by the brown and green color of the vegetation on their sides. Comparatively little rain falls at Honolulu, or within some miles thereof, during nine months of the year.

Winter, or the rainy season, lasts from the end of October to the end of December, a period of two months. During that time a considerable amount of rain falls, if measured by inches,—in November, 6.05, December, 11.96 inches,—but as a great quantity falls in a short time it rapidly finds its way to the sea, owing to the nature of the subsoil and the physical conditions of the surface. It seldom rains more than forty-eight hours at a time. When raining and the sun is obscured, the thermometer stands at 70° and 72°, and the atmosphere is moist and warm; it is never cold with rain. The average monthly temperature from October to March is as follows:

	Sunrise.	3 P.M.
October	72°	84°
November	71°	81°
December	71°	81°
January	68°	81°
February	67°	80°
March	69°	80°

During the early morning, when the air is calm and evaporation active, the thermometer will sometimes fall to 60°; only once during the past five years has it fallen as low as 56° F. The humidity varies from .69 in July to .87 in January, the mean of the year being .78. Electrical disturbance is very rare, and consequently ozone is nearly or quite absent.

From the above it will be seen that these islands, and more particularly Honolulu, possess a very equable climate, one well adapted to patients suffering with diseases of the lungs and circulation, or a tendency thereto, or to the chronic invalid in need of change. One can wholly live in the open air, and without fear of sudden changes, so common to Mediterranean health-resorts. Doors and windows need not be closed for fear of harsh winds at any time in the winter months, and the cooling trade-wind prevents undue relaxation during the summer months. A walk or drive is possible at any season of the year, and the use of extra wraps is unnecessary. Should a cooler climate than that of Honolulu be desired, an invalid will find it in the neighboring islands, where any temperature may be obtained from 80° to 20° F., the most desirable being that of the plains of Maui and Hawaii, which averages about 10° below that of Honolulu; this temperature is attained at fifteen hundred to two thousand feet above the sea-level.

Horses are abundant, and driving or riding can be accomplished at a moderate cost. The roads in the vicinity of Honolulu are excellent. Surf-bathing and swimming in the sea can be practised here as nowhere else, nature being lavish in this respect, and beaches are usually well protected, by outlying coral reefs, from heavy breakers and undertow. The temperature of the water is such that bathers are not driven out by uncomfortable or dangerous feeling of chill or cold, and the most delicate may venture in. In the way of other amusements there are fishing, hunting, excursions to the neighboring islands and the great volcanoes, and an agreeable, cosmopolitan society noted for its hospitality. Royalty itself is not inaccessible on occasions. In the way of botany there is a most inviting field, as there are over a hundred species of ferns known to exist; the castor-oil plant is sometimes seen with a stem five and six inches in diameter, spreading out like a tree, with the lower branches several feet from the ground. There are likewise a theatre, the Royal Hawaiian band of music,—a fine organization,—some lovely squares, and a roomy, comfortable hotel. The fruits consist of oranges, bananas, pine-apples, limes, guavas, grapes, and the coarser ones common to the tropics. California sends fruits and provisions in addition, so that the menu is quite ample; though the beef seems inferior.

In view of the fact that it is but seven days from San Francisco by mail-steamer, —the distance being 2100 miles,—these islands merit more attention from Americans in search of an agreeable health-resort, and it is surprising to find them so neglected in this respect. There is no malaria to speak of, or other local injurious influence of any description—so far as known to me —that any invalid need fear to encounter. The exanthematous diseases—measles and smallpox—have in times past raged with fearful mortality among the natives, but in recent years even these diseases have become divested of unusual severity and are of rare occurrence. Leprosy is extant, but the government confines these cases, or segregates them, on an island of the group, named Molokai, whereon there are now some seven hundred lepers, forming a lawful and well-ordered community, not without many of the usual comforts and luxuries. Upon recognition of the disease lepers are at once removed, and cannot hope to return, social station being without influence, communication going on, however, through the officials, and the relatives of those afflicted can attend to their creature comforts, and in some instances even visit them. I am not aware of any peculiarities of medical treatment, nor have the medical reports to the state, if any such exist, been accessible to me. The effect of the system of segregation is apparent in a marked decrease of cases sent to Molokai, so that at a not remote time the disease will be eradicated from these islands. The disease has been known to exist here from very early times, though it is asserted that the Chinese brought it with them, and others speak of it as an outcome of syphilis, brought by the whalers, combined with degradation of tissues by reason of diet and habit. It has been observed that greater virulence, or a lower type of disease, has usually followed contact of the white and darker-skinned races, and at the latter's cost. There is much theorizing on this subject by members of the profession here directly concerned, and some cases are mentioned. So far as observed, there appears to be no essential difference in the disease here and as I have seen it in other countries.

Honolulu contains a well-ordered hospital of moderate extent, beautifully situated amidst tropical plants and groves on rising ground in rear of the city, and possessing advantages in its service and arrangements; a tax on incoming passengers is its main support. The city has a full quota of physicians. I should have stated earlier that two dollars and fifty cents per day is the price of the best living the hotel affords. Cane-sugar is the main production of the islands, and the yield is enormous,—said to be without comparison elsewhere.

In conclusion, it may not be uninteresting to state that the Hawaiian kingdom is one of the three nations whose exports exceed their imports.

October 1, 1879.

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TRANSLATIONS.

Geissospermum Vellosii (from Chernoviz's Formulario and Estudo sobre Fibres, by Professor Torres Homem).—This tree, a native of Brazil, is known, in the different localities where it grows, by the names of *Páo Pereira*, *Páo forquilha*, *Páo de pente*, *Camará de bilro*, *Camará do mato*, *Canudo amargoso*, *Pinguaciba*. It is found in the mountains of Tijuca, Estrella, and Gericino, in the province of Rio de Janeiro, and also in the provinces of Bahia, Minas Geraes, and Espirito Santo. Dr. Freire Allemão describes it as follows:

"A very large tree, the bark of which is very thick, the liber being yellowish, and having a bitter taste, free from astringency. Its crooked branches are very bushy. The leaves are of an oval, lanceolated form, measuring two to three inches in length, by one to one and a half in width. The flowers are small, gray in color, and odorless. The fruits, few in number, are oval in shape, covered, while green, by a grayish, hair-like substance; they become yellow when ripe. The seeds are lenticular, roundish, and oblong in form, and found in rows of four or five in each, covered by a fibrous pulp."

The portion used in medicine is the bark only. It occurs in commerce in the form of long strips, made up of thin, adherent laminæ, of a yellowish color and bitter taste. In the year 1838 E. C. dos Santos, a pharmacist in Rio de Janeiro, obtained from this bark an alkaloid believed to be its active principle, which was called *Pereirina*.

Later analyses, made by Dr. E. C. dos Santos, son of the pharmacist, and Professor of Pharmacy in the Academy of Medicine of Rio de Janeiro, and also by the German chemists Pfaff and Behrend Goos, gave, more or less, the following result:

An alkaloid (*pereirina*) was obtained in the form of a grayish-yellow powder (no crystals), insoluble in water, but readily soluble in alcohol, ether, and the acids; a bitter, resinous extractive, soluble in alcohol, insoluble in water or ether, a small quantity of starch, and a vegetable acid, in combination with the alkaloid, were also found. From the ashes were obtained potash, calcium, magnesium, oxide of iron and of copper, silicon, and sulphuric, muriatic, phosphoric, and carbonic acids.

The use of the bark of *Páo Pereira* in the treatment of malarial fevers has given, in Brazil, a very satisfactory result. Dr. Torres Homem, Professor of Clinical Medicine in the Academy of Rio de Janeiro, says in his book "Estudo clinico sobre as Fibres do Rio de Janeiro," "There is not a practitioner in Brazil who has not had some good result from the use of this bark in the treatment of intermittent fevers." "I had under my care," says the same professor, "a lady who lived for six years in an extremely malarial place, suffering from intermittent fever (quartan), to whom the salts of quinia did no good, and she was cured by the use of a bath every day in the decoction of this bark and the internal use of twelve grains a day of the valerianate of pereirina given in two doses."

Dr. E. C. dos Santos tells of twenty-one cases of intermittent fever cured as the above mentioned.—Moysés Marcondes.

Influence of Age on the Result of Amputations.—The prognosis of operations performed on persons of advanced age has always been regarded as comparatively unfavorable. The leanness, density, and dryness of the subcutaneous connective tissue predisposes, it has been said, to phlegmon, while the inactive circulation favors gangrene of flaps. The greater "vulnerability" of old persons has also been brought forward as a contra-indication to operations. The introduction of the antiseptic method has, however, according to Dr. Max Oberst (*Cbl. f. Chir.*, No. 2, 1880), enlightened surgeons upon this subject, and has proved the error of the former theories. It has further shown that the age of the patient is without influence upon the course and termination of the amputation, provided only that two accidents are guarded against,—septic processes and excessive loss of blood. The power of the aged to resist these accidents is much smaller than that of the young. Lister's antiseptic process and Esmarch's bandage are the two agents in preventing mortality. Oberst gives tables of mortality in support of his view, as follows. Of 220 cases of amputation occurring in the surgical clinic at Halle, 9 (*i.e.*, 4.1 per cent.) terminated fatally. Among these were 48 patients over fifty years of age, of whom 2 (*i.e.*, 4.17 per cent.) died. Thus it appears that, *quoad vitam*, the result of the amputation was not influenced by age. Of these 48 older patients, 30 were between fifty-one and sixty, 13 between sixty-one and seventy, 4 between seventy-one and eighty; one, a case of amputation through the thigh, which recovered, was eighty-four years old. In one of the fatal cases (amputation of the leg for senile gangrene, the patient being seventy-four years old) death occurred from tetanus. In a second case death occurred as a result of drinking habits, the patient never rallying from the effects of the anæsthetic. The course of the wounds was always without reaction; neither phlegmonous processes, bone suppuration, nor phlebitis was observed. In half the cases union by first intention took place.

Ligature of the Middle Meningeal Artery in Fractures of the Cranium.—Apropos of a successful case by Professor Hueter, Marchant (*La France Méd.*, Nos. 1 and 2, 1880) makes certain observations reaching the following conclusions:

Rupture of the middle meningeal artery in direct fractures of the lateral portions of the cranium, with wounds, presents different aspects in the young from those observed in the old. In children, on account of the more intimate adherence of the dura mater to the bone, the blood tends only slightly to spread in the interior of the skull. The effusion is rather extracranial, and may be met by ligature of the middle meningeal artery,—an operation rendered comparatively easy by its position and by the fact that it has usually been cut more or less sharply by a splinter of bone. In adults the opposite condition exists, the dura mater is separated over a greater or less area by the effusion, which is rather intra- than extracranial, external hemorrhage being exceptional. If, suspecting intracranial hemorrhage, on account of the symptoms of pressure or the appearance of external hemorrhage, the surgeon is inclined to intervene, he is met with almost insuperable obstacles to the ligation of the middle meningeal artery. These are connected with the volume of the clot to be removed, the position of the artery, four or five centimetres in from the surface, the difficulty of finding the exact point of the wound in the artery, and, finally, of applying hæmostatics in this position.

Tetanus — Nerve-Stretching — Temporary Relief—Death.—Klin and Knie (*Cbl. f. Chir.*, No. 2, 1880; from *S. Petersb. Med. Wochens.*) give the case of a patient suffering from complicated luxation of the terminal phalanx of the right thumb, in whom tetanus and opisthotonos appeared on the twelfth day. The brachial plexus was exposed in the neck after Vogt's method, and the nerves were stretched centrally and peripherally. The contraction of the fingers and hand remained unaffected, but the tetanus and opisthotonos ceased for three days, returning, however, at the end of that time. The case terminated fatally, in spite of the use of curarine, chloral, and morphia, a day or two later. At the autopsy the brachial plexus was found intact, with the exception of a branch of the median running to the thumb, which had been torn, and which was found floating in pus.

Hernia of the Spleen with Favorable Termination.—Oks (*Cbl. f. Chir.*, No. 2, 1880; from *S. Petersb. Med. Wochens.*) tells of a woman of 70 who was gored by a mad bull in the side, causing a wound in the tenth intercostal space seven centimetres in length, with ragged edges. This was filled by the uninjured lower border of the spleen, which was pushed out some two finger-breadths. The spleen was washed with carbolic acid solution, replaced, and the wound sewed up with catgut. Externally ice was applied. The wound healed by first intention.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, FEBRUARY 28, 1880.

EDITORIAL.

THE MEDICAL PROFESSION IN ENGLAND.

THE causes of the social status of the medical profession being lower in Great Britain than in America are not difficult to discover. It must be remembered that social rank is a matter of relation, and that in England there is a large class of people artificially set apart as superior to their fellow-men, and mostly supported in great affluence by hereditary fortunes. Another relic of mediæval barbarism that still holds sway in the mother-country with a force almost inconceivable in this land of new ideas is the powerful effect of broad acres in exalting their fortunate possessors. Most of the English nobility have large landed possessions, and hence in a twofold way command the respect of their less fortunate brother Englishmen. For a doctor to attain to the lower ranks of the nobility is not unknown, but knighthood may be conferred upon a fortunate provincial mayor who receives her Majesty in some town of the country districts, and very rarely indeed is the doctor able to boast of sufficient estates to rival even the country squire. Medical men are upon the apex in this country, because we have no privileged noble class sustained by that deference for artificial rank which has been ingrained in the English character by the training of successive generations.

The reasons assigned do not, however, account for the fact that, whilst in this country the medical profession is at least as powerful as the legal or clerical, in England its influence bears no comparison with that of its sister professions. The explanation of this anomaly is to be found in the relations of the professions to the government in the two countries. The seat of the bishops in the House of Lords is assured, whilst every young, ambitious English lawyer may hope some day to sit as a peer of the realm. Until there are medical lords who have a right to speak upon the floor of the House of Lords, and who shall exert an influence in the decision of all questions of State medicine comparable to that of the law lords in legal questions, the medical profession in Great Britain cannot expect to control the governmental action as we are able to do in America, or to be recognized by the mass of Englishmen as entirely the peers of members of the other professions.

LEADING ARTICLES.

COLOR-BLINDNESS AND OTHER DEFECTS OF VISION IN RAILROAD EMPLOYÉS.

THERE has been much sensational talk of late regarding color-blindness among the employés of our railroad and marine services, and, if we were to believe the current rumor, accidents have been daily happening on account of the inability of engine-drivers and signal-men to distinguish between the colors indicating safety and those warning against danger. The subject has even been taken up by the enterprising novelist, and tales of harrowing interest have turned upon the errors of purblind pointsmen.

Exactly how much truth lies at the bottom of this belief in the general prevalence of color-blindness has heretofore been difficult for any but experts to determine, and indeed the data necessary to form an intelligent opinion have been wanting. As a contribution to our knowledge of the subject, the recent report of the Massachusetts State Board of Railroad Commissioners possesses much interest; the more so because the Board has had the benefit of the advice and experience of Dr. B. Joy Jeffries, who is so well known as a specialist in this direction.

The colored worsteds recommended by Prof. Holmgren were used in the investigation, and also colored flags and lanterns. A large number of railroad employés were personally examined by the Board, which also corresponded with foreign authorities as well as American railroad men, and we shall endeavor to give a brief résumé of the facts which the Board has ascertained, and the conclusions to which their investigations have led them.

Color-blindness, as is known, may be either total or partial, and partial color-blindness may be subdivided into complete color-blindness, including red-, green-, and violet-blindness; incomplete color-blindness, where the sense as to one or more colors is feeble. The varieties of practical importance in railroad management are total color-blindness and red- and green-color-blindness, the last two colors being very generally employed as signals.

It need hardly be said that such a defect is a source of danger while railroad trains are run by colored signals. It is true, however, as the Massachusetts Commissioners confess, that no railroad accident has ever been traced to this cause. But the possibility of such an accident is beyond question, and, indeed, one employé among those examined had, it was found, led several engine-drivers into errors for which they had been reprimanded. No doubt existed that he did this by displaying the wrong signals. The mere fact that an individual placed in front of a number of colored worsteds may make mistakes in the endeavor to match red with red or green with green does not prove that he is incapable of distinguishing railway signals. It is also to be noted that color-blindness is often connected with good vision in other respects, and particularly with a quicker perception of faintly-illuminated objects, so that, contrary to common belief, our railway signals are safer, so far as liability to mistake by the color-blind is concerned, by night than by day. It is said that some color-blind engine-drivers who distinguish colors successfully do so by guessing at the colors by the varying intensity of the light. But for practical purposes, the sensation of color being subjective, it makes little difference how he distinguishes colors, so long as he does so rapidly and unerringly.

It has been ascertained by the investigations of Dr. Keyser, of this city, that about three and one-half per cent. of all the employés on the roads terminating in Philadelphia (excluding those on the Pennsylvania road, not examined) have defects of such a character as to make them really incapable and unsafe to occupy the positions they hold. A similar percentage has been ascertained by other observers to exist generally. It appears to be the opinion of the Massachusetts Board of Railroad Commissioners that examinations as to color-blindness may be made as well by laymen as by experts; but this view is not a safe one, and in any investigation with pretensions to thoroughness an expert should certainly be included among the examiners.

A matter of equal importance to the occurrence of color-blindness among railway employés is that of defective vision; and it appears that heretofore our railway companies have not been sufficiently careful in the examination of those in their employ holding responsible positions requiring clearness of vision. It is not usually the defect of near-sightedness which impairs the usefulness of railroad employés, but rather the gradual impairment of vision from old age or other causes. The members of the Board, while they cannot speak of any railroad accident as resulting from color-blindness, do know cases where defective vision has led to such accidents.

The final conclusions of the Board are: 1. That the existence of color-blindness, total and partial, is a well-established fact, and that there are men who, by reason of such defect, are unfit for positions on railroads requiring ability to distinguish color-signals. 2. That the extent of dangerous color-blindness, *i.e.*, such color-blindness as unfits persons for railroad employment, has been greatly exaggerated, and that a very small percentage of persons are, for this reason, unfit for such employment. 3. That examination may be properly made by persons not medical experts; and that such examinations will certainly be sufficient if doubtful cases are referred to such experts. 4. The Board recommends that every railroad company shall have an annual examination of every employé whose duties require or may require capacity to distinguish form or color-signals, and that no one shall be so employed who has not been thus examined. The examination should refer to color-blindness and to other defects in vision. It should include all who are in any way concerned in the movement of trains. 5. The Board does not recommend any legislation on the subject. The interest of each corporation is strong enough to insure careful examination.

CORRESPONDENCE.

ON THE PHYSIOLOGY OF WRITING.

NO doubt the title at the head of this letter will look odd to you, Mr. Editor; but look again, and perhaps you will think, with your correspondent, that the oddness arises from the neglect with which this important subject has been treated by physiologists until a time which can still be given, not in months, or even weeks, but in days.

Man is an egotistical animal, and he likes to know all about, as well as hear, his own voice; and perhaps this is the reason why the physiology of speech is so well known that the very perfection of our knowledge is often a source of error, while the equally important—even though it be less noisy—function of writing has been treated in such a "step-motherly" manner. This latter is a practical subject, and it does not necessitate the making of experiments on any animals but man,—desiderata of importance in America. It is for these reasons that I wish to draw the attention of the readers of the *Times* to what has recently been done on this subject.

At a recent meeting of the Institut Genevois, Professor Carl Vogt spoke of the results of his experiments on this subject. These results I will succinctly give:

1. "People write a given word in the ordinary manner, *i.e.*, with the right hand, as well with the eyes closed as with the same open."

2. "While this is true of words, it is not true of sentences. In order to allow the proper amount of space between words, we need the assistance of our eyes."

3. "In writing from right to left instead of, as the Christian nations do, from left to right, and the eyes being shut, we write better with the left hand than with the right."

This last statement is true, provided the words are written as the Semitic races write. For instance, the word abel—the one used by the lecturer—must be written *leba;* so that the word could only be read by turning the paper and holding it before a light to see what was written on the other side,—an act which I strongly recommend the printer to perform before he attempts to put the word in type. But when the word is written *abel*, only that you commence with the *l* and go from right to left, instead of commencing with the *a* and writing from left to right, I have found it more convenient and the results more satisfactory with the right hand than with the left, this being just the opposite result from that obtained by Professor Vogt. The only difference consisted in his transposing the direction of the letters of the words as well as the direction of writing, while I only did the latter. I have often repeated the experiment of the distinguished professor, and my results have confirmed those obtained by him. It must not be forgotten, in repeating these experiments, that they were made with the eyes closed, and, further, that "practice makes perfect."

The lecturer further alluded to cases described by Dr. Eslenmayer, of Germany, where hemiplegic patients in whom the right side was paralyzed wrote with their left hands, employing the *Semitic* instead of the *Aryan* manner of writing. These patients, when asked why they did not write as they would with the right hand, replied that they would were they able to use the other hand, but with the left hand they could only write in the manner in which they did.

Professor Vogt then gave a very ingenious theory to explain the facts observed. He believes that the words we write are taken from "photographic impressions" of the words existing in the hemispheres, and these impressions exist in the right hemisphere in a manner reversed from that in which they exist in the left; that they are negatives of the photographs which the hand puts on paper. The impression of the word *abel* in the left hemisphere would be, according to Dr. Vogt, just as it is here written, but the impression received by the right brain of the same word would be *leba*. Consequently, a man with hemiplegia on the right side from a clot in the left hemisphere *may* knowingly write after the Semitic type, even against his will.

As another argument in favor of his theory, the lecturer spoke of the third of the series of facts previously mentioned,—when the eyes of a person are closed, he is best able to write in the Semitic manner with the left hand, and in the manner of the Aryans with the right hand.

In the discussion which followed, Professors D'Espine, Schiff, and Vulliet opposed the theory advanced by Professor Vogt. Dr. D'Espine thought that the difference could be explained by the circumstance that the right hand, being accustomed to writing from left to right, naturally finds it more difficult to write in the reverse sense than the left, which is a novice in writing.

Professor Schiff observed that the innervation of the muscles of the arm naturally forces these from the body, the left from right to left, and the right in the opposite direction. He believes that the difference in the facility with which we write with the different hands in the two directions directly depends on this fact.

Against both of these arguments against the theory of Dr. Vogt certain facts observed by your correspondent bore considerable weight. It was before stated that I had made the observation that *abel*, written in the Semitic style, commencing with the *a*, *every letter having its direction reversed*, is written better and with more facility with the left than with the right hand. The reverse is true when, adopting the direction as before, we commence with the *e*, and give each letter the shape and direction it would have when written in the ordinary manner, thus, a-b-e-l. While habit (as Dr. D'Espine would have it) or natural innervation of the muscles (according to Dr. Schiff) might explain the facts observed by Dr. Vogt, they could not explain my observations. In Professor Vogt's experiments the word was written *leba*, and the brain had to think of it as such. In my experiments the word was written *abel*, and the brain must have thought of it as it is here written. The *direction of writing was in both* series of experiments the same,—*from right to left*. So, the only essential difference between our experiments lay in the brain, *i.e.*, in the manner in which the word was thought of before writing it, and, consequently, the differences in the results obtained can only be sought for in the brain.

It not being true that it is most facile to write with your left hand from right to left, and with the right in the reverse direction, we must slightly change the wording of Professor Vogt's theory. According to my views, it should read: *The impressions of a word to be written possessed by the two cerebral hemispheres are, as in the well-known case of the two retinæ, the one the reverse of the other. In writing, the impression from the side of the brain opposite to the hand which writes is more readily written in the dark by this hand than by the hand which corresponds to the side of the brain from which the impression is derived.*

Professor Schiff contended that the word to be written must have previously been heard. Professor Vulliet, in confirmation of this view, mentioned the well-known fact of Beethoven being able to compose music of the highest order for many years after he had become completely deaf. He must have possessed a subjective sensation of hearing in the centres for this function, or this would have been impossible.

Professor Schiff acknowledged that in the case of those born deaf-mutes, who have learned to converse by signs, to read, and even to write, no "subjective sensations of hearing could exist.

This finished the discussion; but before finishing this letter I wish to allude to a subject indirectly connected with the one discussed. All the Semitic tribes and nations have always written from right to left. Dr. Eslenmeyer says they did it because they wrote with their left hands. A long convalescence and the assistance of several friends who have made ancient manuscripts a lifelong study have given me the opportunity of thoroughly studying this question. From these studies the conclusion is inevitable that from time immemorial the Semitic tribes wrote with their right hands. It is well known that the Semitic nations of the present day all write in this manner. Among the older nations writing was a holy art. The left hand has always been and is still considered unclean, and has to perform all the unclean offices connected with the body. It is very significant, in this connection, that in several of the Semitic languages the words hand and right are considered synonymous, the left hand being a thing too low to mention.

Tables being of modern origin and not possessed by these nations, their writing was done by pushing the skins towards the right hand, this organ being stationary. As a consequence, the writing was from right to left. This is the manner in which the Turks and Arabs of the present day write. The Koran commands you to keep your right hand quiet.

B. F. LAUTENBACH.

GENEVA, January 20, 1880.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AN adjourned conversational meeting of the Society was held at the hall of the College of Physicians, Philadelphia, December 17, 1879, Professor Henry H. Smith, President of the Society, in the chair.

SKIN-GRAFTING.

Dr. Laurence Turnbull made some practical remarks on skin-grafting, and exhibited photographs from a remarkable case occurring in the practice of Dr. Hayes, of Tralee, Ireland. The patient was exhibited before the meeting of the British Medical Association.

Dr. Charles B. Nancrede, from considerable experience of skin-grafting, had come to the conclusion that when they are successful the new epidermis is more apt to break down and ulcerate than surfaces cicatrized in the ordinary manner. In cases of leg-ulcer he had repeatedly seen the new surface break down and disappear very rapidly after grafting.

Dr. Richard J. Levis said that the subject of skin-grafting has now become very familiar. He had adopted the expedient very many times, and had no doubt that it often is of great service in the healing of large ulcerated surfaces. He called attention to the fact that there were some peculiar conditions of the granulating surface requisite to insure the development of the grafts; in some apparently healthy surfaces the grafts will not grow; in rupial ulcers and other unhealthy sores the grafts will sometimes succeed, and yet will fail in simple ulcerations. For this he was unable to offer any adequate explanation. He referred to a case in which the scalp of a young woman had been torn off by machinery, treated subsequently at the Pennsylvania Hospital, and a perfectly clean granulating surface followed, upon which great numbers of grafts were placed, but none would germinate.

When the grafts succeed, it is remarkable how much they stimulate the surface of an old ulcer. In an ulcer with overlapping edges, such as are so often seen in old leg-ulcers at Blockley, it was formerly the custom to cut these edges away, but he had repeatedly seen, after the application of skin-grafts, so much stimulation as to make surface level with surrounding skin and the edges disappear.

It is a curious fact that, no matter what the shape of a chronic ulcer is originally, it becomes nearly oval before it heals; however irregular it may have been, it rarely heals before assuming this form.

In the cicatrizing of large surfaces skin-grafts are applied to good purpose. In the case of a man received into the Pennsylvania Hospital, whose back was burned by sleeping near a lime-kiln, and was intoxicated by its fumes, the entire back was made to quickly commence healing by skin-grafting. A large number of grafts were inserted, and were spreading nicely, when the man took a chill and hot fever, and every one disappeared by rapidly-destructive ulceration. The surface was grafted again with complete success.

As to the manner of taking the grafts, his plan was to introduce a fine needle through the outer layer of the skin, and snip off the elevated minute piece with iris scissors, removing only a small point of cuticle and some of the superficial dermoid layer. He had noticed no difference whatever in the rapidity of the growth in the large and small grafts.

In the process of grafting, the small pieces of integument are simply laid, with the cuticle side uppermost, upon the granulations, the surface being rather dry. After leaving the ulcer uncovered for several hours, he covers it with a piece of waxed paper, to protect it from the bandage. The first phenomenon noticed is the disappearance of the graft. The little piece of cuticle becomes detached and is lost in the discharges from the surface of the ulcer, whilst the true dermoid material remains. Following this, in about two days, a little lilac-tinted spot is seen, considerably below the level of the granulations; then this spot increases, and its subsequent growth is very evident. He regarded the plan of leaving the ulcer uncovered for some hours after the operation to be much better than immediately applying any kind of dressing.

In reply to a question, he stated that it did not seem to make any difference whether the grafts were taken from the same individual or another. In truth, he had frequently transplanted grafts taken from the integument of amputated legs and arms with success.

He had never seen any bad results from this practice, but would not recommend its general adoption for fear of specific infection.

Dr. L. Turnbull, in replying to the objections raised, said that out of twenty-four cases in which he had taken notes, in only two cases had the surface afterwards broken down. As regards the character of the sore to which grafts may be applied, Dr. Levis has used them in rupial ulcers, and Bryant has reported several cases. In the speaker's opinion, nearly all healthy granulating surfaces are suitable. He preferred covering the graft to Dr. Levis's plan, and agreed with Dr. Hayes, who, after applying adhesive plaster and bandage, left it undisturbed for four days, as before this time it is impossible to tell whether the graft will take or not.

As to the source of the graft, it is only necessary that the skin should be healthy. A case is reported in London, where the skin of a white person was grafted upon a colored man, with successful piebald effect.

THE AUDIPHONE.

Dr. C. H. Thomas, by previous announcement, gave a descriptive lecture upon the audiphone, explaining the mechanical principles involved in its operation and method of application, and suggested some important and practical modifications of the construction, and new applications of the principle involved. The lecturer presented several patients to illustrate his remarks (see page 270).

Dr. J. Solis Cohen inquired whether the vibrations in this new route of hearing might not, by constantly jarring the bones of the head, produce some injury to the delicate structures of the brain. The mode of hearing suggested by vibrations of the cranial bones is not the natural method, and may lead to peculiar results similar to those of railroad injury to the nervous system.

Dr. Charles Turnbull said, in reply, that the man who had used this instrument for the longest time was Mr. Rhodes himself, who employed it constantly for three years. In the speaker's opinion, no evidence of injury to the brain existed in this case; on the contrary, he considered him very shrewd in the management of his business. He also called the attention of the Society to the fact that the line is very clearly drawn between the two classes of cases. When the auditory nerve is intact, deafness must necessarily be due to disease of the middle ear or obstruction of the auditory canal. These cases can hear with the audiphone; but in disease of the auditory nerve this will be of no service.

Dr. S. D. Risley said that in middle-ear deafness patients can hear better through the teeth than in health or when the canal is unobstructed. He considered this a practical question in the use of the audiphone: If the auditory canal be closed, can the patient hear through the audiphone more distinctly?

Dr. Thomas, in conclusion, promised to further investigate the capabilities of the instrument. He had given considerable thought to the subject, and had concluded that the vibrations produced in hearing in this manner are of the same kind as those produced in our own cranial bones in the act of speaking, though far less intense, and therefore incapable of doing harm.

The thanks of the Society were, on motion, tendered to Drs. Turnbull and Thomas for their interesting communications.

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REVIEWS AND BOOK NOTICES.

Clinical Medicine: a Systematic Treatise on the Diagnosis and Treatment of Diseases. Designed for the Use of Students and Practitioners of Medicine. By Austin Flint, M.D. Philadelphia, Henry C. Lea, 1879.

There are students and students. There is the student of the text-book, and the student of the science and art of medicine. In this book Dr. Flint has written for the former, when it was to be expected of his vast experience and philosophical mind that he would write for the latter. For the former he has already written much. His reputation in this direction has probably no equal in this country. There is too much of this literature in America. The book about which the publisher declares that no student should be without it, unfortunately belongs very often to this class. The student who found the ready manual just the thing to bring him out of the scrapes of the examination-room, finds it afterwards just the thing to bring him out of the scrapes of the sick-room. The carefully-written monograph, the elaborate and vivid page of Trousseau, the reports of cases in the medical press, are all ignored. What is the use? Is not everything they contain condensed in the manual?

This much about the purpose of the book; but as to the manner in which this purpose has been attained, nothing but the most unbounded praise is equal to the merits of the book. At once, in the introductory chapter, we recognize the master's hand. It treats of general symptomatology and general therapeusis, including some remarks on prophylaxis. It is admirably written. We recommend the advice upon note-taking. But we confess that these generalities have always appeared to us as useless. When the student reads that a weak pulse is found in this and the other and every disease, that emaciation is a symptom of as large a number of affections, that one facies is characteristic of several diseases, and that a little touch of sallowness here and of cyanosis there will convert it into the characteristic facies of several other diseases. In fact, all that we can say is, that these introductory pages are not thumb-marked in the text-books of students.

We are surprised to find that the only mention made of the physiological action of drugs is to be found in the chapter on "Sources of Error in Therapeutics." We do not deny what he says upon the subject; but we believe that its consideration from another point of view might also have found a prominent place in the chapter on "Medicinal Treatment in Cases of Diseases."

"Section First.—Diseases of the Respiratory System." Like all the other sections, this is preceded by some consideration of the general symptomatology of the organs in question. In the present case this includes physical signs. It would be difficult to condense this matter more ably than it has been done by the author. We think, however, that the subject of laryngoscopy has not received the consideration it deserves. After the preliminary observations the author takes up the different diseases. A classification both pathological and semeiological is used. This serves very well the purpose of the book, and it is to be regretted that it is not adhered to throughout the work. We suppose, however, that the difficulties are insurmountable.

The arrangement in this section is as follows: I. "Acute Inflammatory Diseases of the Respiratory Organs within the Chest." This includes Pleurisy, Pneumonia, Bronchitis, and Capillary Bronchitis. After giving briefly a definition of these diseases, he takes up the symptoms separately, viz., prodromic events and invasion; then the local symptoms, as pain, etc.; then the physical signs, inspection, etc.; and under every heading he devotes a paragraph to each affection. Finally a paragraph is given to the etiology of the four diseases. In discussing the treatment each disease is taken up separately. In the treatment of acute pleurisy the author does not wait much before tapping. In the treatment of pneumonia, which is considered as an essential fever, he recommends the use of large doses of quinine in the early stages. Objection is made to the use of tartar emetic in bronchitis. All these matters and many other interesting details of the different sections we should like to bring before our reader, but space does not permit. This chapter terminates with a consideration of the varieties of acute pleurisy, pneumonia, and bronchitis, viz.: Circumscribed Pleurisy, Empyema, Pleurisy with Pneumothorax, Embolic Pneumonia, Hypostatic Pneumonia, Fibrinous Bronchitis, Broncho-Pneumonia, Epidemic Bronchitis, Pertussis, Summer and Autumnal Bronchitis. In other chapters, to the number of five, all the other diseases of the respiratory organs are studied.

"Section Second.—Diseases of the Circulatory System." We shall always find it more profitable to read the author's treatise on disease of the heart rather than these pages.

"Section Third.—Diseases of the Digestive System." It seems to us that the gastric and intestinal affections are too much subdivided: thus, we find acute gastritis, subacute gastritis, chronic gastritis, difficult digestion or dyspepsia, imperfect digestion or indigestion. The chapters on dysenteric affections are very good. The division of intestinal obstructions into obstructions with and without strangulation is very appropriate in a clinical treatise. In the section devoted to enlargements of the liver, we believe that it might have been advantageous to follow the semeiological method employed in the chapter on acute inflammations of the respiratory organs. We notice that the subject of interstitial hepatitis with hypertrophy does not receive the proper attention.

"Section Fifth.—Diseases of the Nervous System." It is the most complete one in the book. We would venture to suggest, however, that some remarks on electricity might be introduced into the preliminary section.

The last section is devoted to the fevers, and includes rheumatism, gout, and cholera. The preliminary chapter contains good practical advice on the antipyretic treatment and the use of cold in fevers. Diphtheria is, of course, included in this chapter. The author considers croup as a local disease, and treats of it in the chapter on inflammation of the larynx.

We have been struck with some remarks to be found in the chapter on typhoid fever. They refer to a number of cases of fever not rare in New York, and which cannot be classified as typhoid. We have seen many such cases in Philadelphia. Of these the author says, "It is highly probable that these are actually cases of one or more species of fever distinct from typhoid. That the existence of fevers not now included in the nosology will hereafter be added, may be predicted with much confidence." (See pp. 684 and 685.)

J. G.

A SYSTEM OF MEDICINE. By J. RUSSELL REYNOLDS. With Numerous Additions and Illustrations by Dr. HENRY HARTSHORNE. Philadelphia, H. C. Lea.

The original method of publication of Reynolds's System of Medicine led to the curious result that, whilst the second edition of the first volume was published in 1870, the first edition of the last volume did not appear until early in 1879. In the present reprint it is obvious that many of the articles are eight or nine years old; and medical articles are not, like wine, improved by age. The attempt has been made to atone for lack of freshness in the reprint by the labor of an American editor. The selection of Dr. Henry Hartshorne for this position evinced the well-known shrewdness of the publisher, but, from the very nature of the case, the revision must be very imperfect. The editor dare not rewrite the articles; he can only add in brackets, and we all know what a thing of shreds and patches a work revised in this way becomes. The good skill of a tailor may be fairly shown in mending the breeches, but, after all, the aforesaid pantaloons are only patched. Then, again, the editor is much limited in space,—a cause, no doubt, why the value and the lack of value, the use and abuse, of cold bathing in typhoid fever occupy for their discussion only one-fourth of a column, and that too in a system of medicine which is to stretch over considerably more than six thousand columns. For a similar reason probably we find no notice whatever of the elaborate modern researches upon the organisms which are asserted to be peculiar to the diphtheritic exudation, and are even believed by some capable investigators to be the *fons et origo mali*.

The value of the work before us consists in its representing English medical thought and teaching, precisely as Ziemssen's great work does the German school of medicine; and it is a great pity that we could not have had a really second edition of the work, with the articles revised by the specialists who had originally written them, or, when these authors are, as in several instances, dead, by their successors in London.

The five original volumes, with the additions of the editor, occupy now only three volumes. Of course the print is small and very close, but the type is so clear that eyes read easily and without fatigue.

PHARMACOGRAPHIA. By FRED. A. FLÜCKIGER and DANIEL STANBURY. Second Edition.

The first edition of this most original and important book upon materia medica was rapidly exhausted, so that the work has been out of print for some time. The death of Mr. Stanbury, in 1875, gave rise to a well-grounded fear that then a new edition would not be forthcoming, a fear which, fortunately, now is laid to rest. By the aid of various friends, prominent among whom is Dr. Charles Rice, of New York, Professor Flückiger has been able to maintain the high character of the book, which even in its second edition has not lost that freshness which so charmed every one upon its first appearance.

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GLEANINGS FROM EXCHANGES.

INTRA-UTERINE MEDICATION.—Dr. Lombe Atthill (*Brit. Med. Jour.*, vol. ii., 1879, p. 930), when dealing with cases exhibiting symptoms of intra-uterine disease, invariably directs his treatment to the diseased surface. The symptoms are: 1, derangements of the menstrual functions; 2, uterine catarrh; 3, pain, specially if caused by the passage of the uterine sound. Fluids should never be introduced into the cavity of the uterus unless the cervix be first freely dilated: the treatment is in any case unsafe and objectionable. Ointments are difficult of application and inefficient; so are powders. Dr. Atthill uses the following agents only: carbolic acid, tincture of iodine, iodized phenol, nitric acid, solid nitrate of silver, zinc points, crayons of iodoform. In using carbolic acid, the probe by means of which the agent is carried to the fundus must be passed up twice, for much of the acid with which the cotton is charged is neutralized as it passes through the cervical canal the first time. The second application gives more pain than the first, but this soon dies away, as the acid is a local anæsthetic. The preparation used is composed of two parts carbolic acid and one part spirits or glycerin. It should usually be applied every three or four days for some weeks. Iodine is dirty and mal-odorous, but sometimes useful as an alternative. Dr. Atthill uses Battey's (of Georgia) iodized phenol (iodine one part, crystallized carbolic acid two parts; mix, and combine with gentle heat). Diluted it is an efficient escharotic, and useful in chronic endomyelitis of old women, in whom a fetid discharge frequently occurs. Nitric acid should only be employed in severe cases. It is very efficient. The patient should be kept quiet a day or longer after the application. It should never be applied except at the patient's house. A canula should be used when it is applied to the interior of the uterus, to protect the cervix, which may otherwise contract subsequently. Solid nitrate of silver and zinc points are useful, but sometimes cause cellulitis. They are most useful when menorrhagia occurs, the os and cervical canal being patulous, but the uterus not much enlarged, and when the hemorrhage is thought to be due to a vascular condition of the intrauterine mucous membrane, rather than to the existence of a thickened and granular condition of its surface. They should not be used if copious uterine catarrh be present. Iodoform sometimes allays pain, but is uncertain in its action, and has little, if any, effect as a caustic.

ACONITIA.—Dr. Oulmont, Physician of the Hôtel-Dieu, terminates a memoir on aconitia, which he presented to the Académie de Médecine, with the following considerations. It is a well-defined medicinal agent, which acts on man in a regular and certain manner, but which, on account of its energy, should only be employed in very small doses at long intervals. Frequently neuralgias are accompanied by well-marked intermittent and periodic accidents, to combat which quinine should be added. The important point, both for patient and physician, is to be able to rely upon a pure and unchangeable medicinal agent which is always identical in its composition and very scrupuously dosed. It is in order to attain this end that Dr. Moussette has prepared his pills, each containing very exactly a fifth of a milligramme of crystallized aconitia and five centigrammes of pure quinine. In consequence of the energetic action of the aconitia, the susceptibility of the patient should be tried by only commencing the first day with three pills,—one morning, mid-day, and evening. If on the first day no marked sedative action is obtained, we may gradually augment the dose by a pill per diem, until six are taken in the twenty-four hours, at which dose we should remain until the pain is subdued, only going beyond it in exceptional cases. If a little diarrhœa comes on, the dose should be diminished. To sum up, physiological investigations and clinical observations conducted in the Paris hospitals have demonstrated that the sedative action exerted by Moussette's pills on the circulatory apparatus, through the medium of the vaso-motor nerves, indicates their employment in neuralgia of the trifacial, congestive neuralgias, and in rheumatic, painful, and inflammatory affections, etc.—*Medical Times and Gazette; Gaz. des Hôp.*, November 25, 1879.

CORVISART AND NAPOLEON I.—The *Lyon Médical* extracts the following anecdote from the memoirs of Madame Rémusat recently published in the *Revue des Deux Mondes:* "The Emperor, having renounced the divorce for the time, but always pressed by the desire of having an heir, asked his wife whether she would consent to accept a son who only belonged to himself, and to feign a pregnancy with sufficient skill to deceive everybody. She seemed anything but adverse to comply with his wish in this respect. Bonaparte then, sending for Corvisart, his first physician, in whom he placed a merited and long-tried trust, confided his project to him. 'If I am able,' he said, 'to assure myself of the birth of a boy, who will be my own son, my wish is that, a witness of the feigned delivery of the Empress, you should do all that is necessary for giving to this device every appearance of a reality.' Corvisart, considering that the delicacy of his probity was compromised by this proposition, promised the most inviolable secrecy, but refused to lend himself to what was required of him. It was not until long afterwards, and subsequent to the second marriage of Bonaparte, that he confided this anecdote to me, attesting to me at the same time the legitimate birth of the King of Rome, concerning which it had been endeavored to excite doubts that were perfectly unjust."

WICKERSHEIMER'S PRESERVATIVE FLUID.—The composition of this fluid is as follows. Alum 100 grammes, common salt 25 gr., saltpetre 12 gr., potash 60 gr., and arsenious acid 10 gr., are to be dissolved in 3000 gr. boiling water. On cooling, the liquid is to be filtered. To every two and a half litres, supposing a large quantity to be prepared at once, a litre of glycerin and 250 ccm. of methylic alcohol are to be added. Herr Wickersheimer states that the bodies of animals or men preserved with this fluid retain their form, color, and pliability completely. After several years the muscles look as fresh on section as if they belonged to a recent corpse. For embalming purposes the body is first injected with the fluid, in the proportion of one litre and a half for a child of two years, and of five litres for an adult. It then is immersed in a bath of the fluid for several days, after which it is rubbed dry, swathed in bandages wetted with the fluid, and preserved in an air-tight case. For bodies which are to be dissected the injection alone suffices. Small vertebrates and invertebrates can be kept simply immersed in the fluid, or if wanted in the dry state may be in it six to twelve days, and then be taken out and dried in the open air. Hollow organs, such as the lungs and intestinal tract, are best injected with it before immersion. The process seems to have the recommendation of simplicity and cheapness, as well as that of its preserving the natural color and the pliability of the objects treated by it.

RECTAL ALIMENTATION BY MEANS OF DESICCATED BLOOD.—Dr. F. E. Stewart (*N. Y. Med. Jour.*, vol. i., 1880, p. 11) calls attention to the value of blood as an aliment *per rectum*, and to the convenience of desiccated blood, drawn from healthy animals and made below the temperature of 110° F. A little more than a drachm of the dried article represents a fluidounce of blood. To dissolve, a drachm should be thrown into a fluidounce of water and allowed to stand until the albumen becomes perfectly soft, to prevent sticking to stirring-rod or dish. Gentle agitation will then convert it into a perfectly homogeneous fluid, closely resembling fresh blood. It is a very difficult matter to dissolve dried blood by pouring water upon it, for it immediately adheres together in lumps, and sticks to everything brought into contact with it.

From four to six drachms of the powder daily, or more, is the dose, which may be given at once, at bedtime, or in divided portions during the day, as circumstances seem to require.

If a greater amount than can be absorbed be injected at once, and decomposition result therefrom, it is advised to wash out the rectum with tepid water before continuing the medication.

CASE OF EAR SNEEZING.—Dr. Jas. Russell's case (*Brit. Med. Jour.*, vol. ii., 1879, p. 937) was that of a man of 56, of nervous temperament, who was suddenly taken with "a kind of gaping and sneezing;" the gaping seemed to come from his heart; the sneezing was incessant during the next two days and nights. In the afternoon of the second day, after a severe sneezing-fit, he tumbled down, and was unconscious two or three minutes; on recovering, he was completely deaf, so that, not knowing what had happened, he was nearly knocked down by a passing carriage in crossing the street. On the following afternoon he began to hear on the left side, but the sound seemed "to come the contrary way:" if from the front it seemed to come from behind, if from one side it seemed to come from the other. Later he suffered from humming and buzzing with pain in the ear. There was no cough or vertigo. Examination showed impacted wax in the left ear, with acute inflammation of the tympanum at the attachment of the vesicles.

CASE OF "ANGINA LUDOVICI."—J. A. Erskine Stuart (*Brit. Med. Jour.*, vol. ii., 1879, p. 937) saw a child six months old presenting a hard brawny swelling extending over the whole front of the neck from the lower jaw downwards. The skin over this was natural in color, except a coin-sized patch immediately below the symphysis of the lower jaw, which was black in color, surrounded by a bluish areola, and fluctuating on pressure. The face was much swollen, and pitted on pressure. The parotid and submaxillary glands were enlarged and hard. Nothing wrong with the throat inside. The child was feverish, with a weak pulse, and died next day. The pathology of the disease is simply an inflammation of the cellular tissue of the neck, going on to suppuration.

ACUTE ORCHITIS TREATED WITH THE ROLLER BANDAGE.—Take a roller bandage one inch wide, four yards long, and thoroughly imbued with starch. Seize the affected gland with the left hand so as to make a pedunculated tumor of it, and apply four turns of the bandage around the neck of the tumor. Then wind the bandage about the tumor itself in such a way as to effect firm compression. The patient should be kept in bed and the bandage be applied morning and night; no other treatment is necessary. In a few days the swelling will all be removed, but the bandaging should be continued a little longer, to prevent relapse. This method will be found less annoying and painful than that of using adhesive plaster.—*Dr. L. A. Dugas, in New Orleans Medical and Surgical Journal*, January, 1880.

BOROCITRATE OF MAGNESIA AS A SOLVENT OF URIC ACID CALCULI.—Dr. Koehler, of Kosten, Germany, recommends (*Berliner Klinische Wochenschrift*, November 3, 1879) the above salt in case of gravel or probable uric acid calculus. It is prepared by dissolving boracite, a natural borate of magnesia, which is found at Stassfurt and hence is also called Stassfurtite, in citric acid. It forms a white powder with a sourish taste. He gives it mixed with white sugar (one to two). The dose is a large teaspoonful (*Kaffeelöffel*) in half a tumblerful of water three times a day. —*Med. Times and Gaz.*

TEA-TASTING A HEALTHY PURSUIT.—Dr. C. L. Dana (*N. Y. Med. Record*, vol. i., 1879, p. 85), in an interesting article on Tea-Tasters, states that he has found these gentlemen, who taste, on an average, two hundred cups of tea per day, to enjoy very good health. Dyspepsia is unusual among them, one gentleman even stating that he had been cured of this disease since taking up the tea business. Japan tea is said to increase the flow of urine, Formosa to a less extent, while the other teas are believed to have no such effect.

CALOMEL *vs.* HYDRARGYRUM CUM CRETA. —I have been reading the communication of Mr. E. Marlett Boddy on the advantage of calomel as a remedy in some of the diseases of childhood. I write now a few lines to express my entire concurrence with the author in his disapproval of the well-known powder of mercury with chalk. As a means by which the system may be gradually saturated with mercury, small doses of mercury and chalk-powder are doubtless very effectual; but as a cholagogue to induce secretion from the duodenum and liver, I believe a far more certain medicine is found in calomel. One grain of calomel triturated for some time with twelve grains of sugar of milk forms a very active cholagogue powder, when administered in a dose of one or two grains. The well-known blue-pill also may be depended upon for cholagogue action, especially if the pill-mass be of some age, so that a small quantity of the suboxide of mercury has been developed in it. Metallic mercury, "killed" by minute trituration with sugar of milk, forms a gray powder that can be easily prepared in the same way as the hydrargyrum cum creta, and, so far as my experience goes, is a preferable medicine. Hydrargyrum cum magnesia I have also tried in one case, but have nothing special to report of its action. I give a decided preference to calomel and blue-pill as the best form for obtaining the cholagogue action of mercury. The practice of frequently administering small doses of hydrargyrum cum creta with a view to correcting secretions is objectionable, as its tendency is gradually to impregnate the system with the mercury, and so produce irritability and anæmia.—*John C. Thorowgood, in Medical Press and Circular.*

Poisons and Antidotes.—In an interesting article on this subject, by Dr. F. A. Falck, referred to in *Schmidt's Jahrbücher*, the writer points out that the so-called antagonism of opium and belladonna was noticed by Albinus and others as early as 1570. A real antagonism does not exist, according to Falck. His conclusions are as follows:

1. Atropin is a true antidote for muscarin, but not the latter for the former.

2. Duboisin is also a true antidote for muscarin.

3. Atropin and duboisin are also antagonistic to pilocarpin.

Atropin and physostigmin,
Strychnine and chloral hydrate,
Chloral hydrate and atropin,
Morphine and atropin,

are all respectively antidotal in a pharmacological sense, but not in a physiological one; that is, the one will diminish the symptoms caused by the other, but will not produce contrary physiological effects.

A Rapid Cure for Cold.—R. Rudolf (*Brit Med. Jour.*; from *Gaz. Med. Ital.*) reports the following observation made on himself. Being seized with a severe coryza, he happened to chew one or two twigs of the eucalyptus, at the same time swallowing the saliva secreted, which had a bitter and aromatic flavor. To his surprise, he found that in the course of half an hour the nasal catarrh had disappeared. Some days later he was seized with another attack from a fresh exposure to cold, when the same treatment was followed by an equally fortunate result. He then prescribed the remedy to several of his patients, all of whom were benefited in the same way. He believes that this treatment is only suitable in acute cases.

Modifications of the Politzer Method of Inflating the Middle Ear.—In inflating the middle ear, Dr. Holt employs a modification of Politzer's method, which does away with the swallowing of water. He directs the patient to fill the mouth tensely with air, while the air-bag is discharged as in the ordinary way. Dr. J. O. Tansley, one of the clinical assistants at the Manhattan Eye and Ear Hospital, has modified Dr. Holt's method. He causes the patient to pucker up his lips and blow from the mouth while he forces air into the nasal cavity with the bag.

MISCELLANY.

Honors to a Young Medical Hero.—Few large hospitals but have had in their history examples of courageous and devoted self-sacrifice on the part of their young resident physicians, fallen victims to malignant disease in the discharge of duty. Usually these victims have been permitted to die and be buried without any notice; but Paris has recently set the example of honoring the remains of a young physician, Georges Herbelin, who died from diphtheria contracted in the discharge of his duties as interne of the Hôpital Ste. Eugénie. The funeral—which was public—was attended by the Minister of the Interior, the Prefect of the Seine, the President of the Municipal Council of Paris, and by Professor Vulpian on the part of the Faculty of Medicine and Dr. Lamulongue on behalf of the hospital staff. Each of these distinguished men delivered an address at the grave. A worthy tribute to a medical martyr, but one heretofore, unfortunately, reserved only for distinguished generals or statesmen. Let us hope the example may be followed in other countries.

Reminiscences of the Edinburgh Infirmary.—The old Edinburgh Infirmary, one of the most celebrated hospitals in the world, has recently been replaced by a new building. The *Medical Times and Gazette* (January 3 and 10) contains a picture of the old building, together with some interesting reminiscences by an old student. These should be read by all those who have at any time been connected with the old Pennsylvania Hospital in this city, which was modelled upon the Edinburgh institution, but which has now outlived its parent. In reading the account of the old building one can trace every step in the plan of our Philadelphia institution.

HOW THEY DO IT IN NEW ORLEANS.—In a letter to the Board of Health on the subject of a complaint that a street contractor was burying dead dogs, etc., in the middle of certain streets, the "Administrator of Improvements" (?!) defends himself by saying, "It has been a long-established custom to deposit offal, etc., on vacant squares in the various districts of the city. I believe it to be an advantage to place them on some of the low streets, where, mixed with ashes, etc., they can be used in raising the grade of such streets and rendering them passable."(!)

M. RAYNAUD inoculated a number of rabbits with the saliva and blood of a hydrophobic patient on the day before death. The inoculations of blood gave negative results; the inoculations of saliva, however, were followed by rabies in a relatively short space of time,—at most a few days. The submaxillary glands of two rabid rabbits inoculated on two healthy rabbits produced in a short time the symptoms of rabies.

AN ANTISCORBUTIC.—During the long voyage of Professor Nordenskjöld around the north coast of Asia, not a single case of scurvy occurred. This was due to the use of a small red berry that springs out of the ice and snow in the short summer. It is dried, mixed with reindeer's milk, and carried in a frozen state. It has a pleasant, slightly-acid taste.—*British Medical Journal.*

SEA-WATER BATHS.—The acknowledged value of sea-water bathing has inspired an enterprising company in London to supply that city with water from the English Channel. It is proposed to furnish it to every house for about eight dollars per year.—*Medical Press and Circular.*

DEATH OF AN INTERNE FROM SMALLPOX.—An interne of the Hôpital Beaujon, in Paris, has just died of smallpox,—a most unnecessary sacrifice. The internes are supposed to be examined as to previous vaccination, but revaccination should in all cases be attempted.

DR. MCFALLS makes use of Lugol's solution, thickened to the consistence of a cream with tannic acid, as a local application in diphtheria.—*New York Medical Record.*

DR. J. NEVINS HYDE, the distinguished dermatologist of Chicago, has succeeded Professor Byford in the senior editorship of the *Chicago Medical Journal and Examiner.*

THE New York Academy of Medicine has been the recipient of a beautiful and costly silver "loving-cup" presented by Mrs. John Jacob Astor.

A WELL-KNOWN German ophthalmologist, Dr. Pagenstecher, of Wiesbaden, has just died from the effects of a gun accident.

SIR DOMINIC CORRIGAN, the famous Dublin physician, died a few weeks ago, at the age of seventy-nine.

NOTES AND QUERIES.

DR. JOHN NEILL.

DR. JOHN NEILL, Emeritus Professor of Clinical Surgery in the University of Pennsylvania, died in this city on the 12th instant, after a long and painful illness. Dr. Neill was born in Philadelphia in 1819, of a family which has included several eminent medical men, of whom his father, Dr. Henry Neill, at one time President of the College of Physicians, is best known. He received his education at the University of Pennsylvania, graduating in 1837. Immediately thereafter he entered the medical department of the University, receiving the degree of M.D. three years later. In 1839 he was appointed House Surgeon at Wills Hospital, and remained there two years. Subsequently he resided as a substitute in the same capacity in the Pennsylvania Hospital. In 1845 he was appointed Demonstrator of Anatomy in the University. In 1847 he was elected Surgeon of Wills Hospital, and lectured during the summer at the Medical Institute of Philadelphia, on Anatomy. In 1849 he was appointed Physician to the Southeastern Cholera Hospital of this city, and made the minute injections upon which was based the report made to the College of Physicians and published in their Transactions. In 1852 he was elected Surgeon to the Pennsylvania Hospital, and in 1854 was elected Professor of Surgery in the medical department of the Pennsylvania College. In 1855 he was elected Surgeon to the Philadelphia Hospital at Blockley. During the late war Dr. Neill served in the army, at first in charge of the military hospitals in this city, and, later, as Medical Director in the field. During this period he was brevetted Lieutenant-Colonel for meritorious services. In 1874 he was appointed Professor of Clinical Surgery in the University, but was obliged by ill health to resign a few years later. He was then made Emeritus Professor. As a lecturer, in his best days Dr. Neill was unusually successful, and was particularly distinguished for the originality and profuseness of practical illustration. He was the joint author, with the late Professor F. Gurney Smith, of "Neill and Smith's Compendium," a very popular students' hand-book.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM FEBRUARY 8 *TO FEBRUARY* 21, 1880.

TAYLOR, M. K., CAPTAIN AND ASSISTANT-SURGEON.—To repair to Washington, D.C., and settle his accounts with the Treasury Department; on completion of this duty, to rejoin his proper station. S. O. 30, A. G. O., February 7, 1880.

MCELDERRY, H., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of the East, to proceed, on or before March 1, 1880, to Fort Omaha, Neb., and report in person to Commanding General, Department of the Platte, for assignment to duty. S. O. 29, A. G. O., February 6, 1880.

HALL, J. D., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Texas, and to report to Commanding General, Department of Dakota, for assignment to duty. S. O. 35, A. G. O., February 13, 1880.

HOFF, J. V. R., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to Commanding General, Department of the East, for assignment to duty at Fortress Monroe, Va. S. O. 29, c. s., A. G. O.

HALL, WILLIAM R., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—The leave of absence granted him December 5, 1879, from Headquarters Department of the Columbia, is extended three months. S. O. 32, A. G. O., February 10, 1880.

APPEL, D. M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—So much of the order of December 29, 1879, as relieved him from duty in Department of the Missouri, is revoked. He will report in person to Commanding General, Department of the Missouri, for assignment to duty. S. O. 32, c. s., A. G. O.

CUNINGHAM, THOMAS A., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—The leave of absence granted him January 26, 1880, from Headquarters Department of Dakota, extended one month. S. O. 19, Division of the Missouri, February 9, 1880.

DRS GEO.. W. MCCREERY and ED. D. SHUÉ, of New York City, RICHARD C. NEWTON, of New York, and JOHN J. COCHRAN, of Massachusetts, having passed a successful examination before the Army Medical Board now in session in New York City, were, February 18, 1880, confirmed by the Senate as Assistant-Surgeons U.S. Army, with the rank of First-Lieutenant.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MARCH 13, 1880.

ORIGINAL COMMUNICATIONS.

CASTS OF THE URINIFEROUS TUBULES—THEIR NATURE AND CLINICAL SIGNIFICANCE.

A Paper read before the Philadelphia County Medical Society, January 14, 1880,

BY JAMES TYSON, M.D.,

Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania.

A SO-CALLED urinary cast or "tube cast" is a mould of a uriniferous tubule. To this all are agreed. But beyond this, opinions differ not a little as to its exact mode of origin, composition, and significance. I retain the term "cast," in common with most English physicians, in preference to that of "cylinder," because it conveys the idea of what is meant with sufficient preciseness while it implies nothing more. The adjective "fibrinous" I also discard as conveying an erroneous impression as to the composition of many tube casts, although some of them are fibrinous.

Casts may be studied as a sediment in the urine or *in situ* in the uriniferous tubules where they are formed. They are characterized by differences in appearance and structure, as the result of which they are variously named. Thus, there are hyaline casts, epithelial casts, blood casts, oil casts, waxy casts, and granular casts. Of the latter there are two subdivisions,—the *pale*, or moderately granular, and the *dark* granular casts. As to the material of which they are composed, different views are held. I will first present my own, because it will enable me at the same time and in the briefest manner to describe the several varieties.

In the first place, all casts are not of the same composition. Thus, what are known as *blood casts* are made up of coagulated fibrin and blood-corpuscles, the latter being entangled in the coagulum precisely as they are in a clot formed out of the body. The blood, through transudation or because of rupture of the capillaries of the Malpighian tuft, trickles down into the tubule, where it coagulates, forming a mould of the tube, and, after contraction, slips out into the pelvis of the kidney, whence it passes by the usual channel into the bladder.

Second, the term *epithelial cast* is applied to any cast to which are attached epithelial cells, be they few or many. In the latter case the entire mould is often made up of closely-packed desquamated cells, which may be cemented by their own adhesive properties or by a small quantity of fibrin, the result of simultaneously effused blood, for blood casts and epithelial casts constantly accompany each other. When the epithelial cells and their fragments—often their nuclei only—are few, they are separated by intervals, at times quite regular, of a hyaline material, to which they may be attached or in which they may be imbedded. And it is the nature of this hyaline material which is the subject of dispute. To me it seems most rational to consider it an exudation from the blood of an albumen or albuminoid substance, which coagulates after entrance into the tubules, entangling there, as does fibrin, whatever substances may be in the tubule, and occluding it for the time being. That it is true fibrin coagulated is not consistent with the modern doctrines of fibrin formation. For this fibrinogen and fibrinoplastin are essential. The former is furnished by the blood-plasma, the latter by the blood-corpuscles, and in the absence of the latter no coagulation can take place. Where there is hemorrhage into the tubules, both conditions of coagulation are present and blood casts are formed. Finally, the chemical properties of casts have been thoroughly investigated, first by Axel Key, and later by Rovida, who have shown them to be altogether different from those of fibrin. On the other hand, that the hyaline material is some sort of exudate rather than a result of a metamorphosis of cells is sustained by the fact that the hyaline is the only shape of cast formed in the slightest derangements of the kidney, as when there is a mere transitory congestion of the organ, active or passive, and where there is no alteration of the epithelium whatever. The same objection holds to their being a product of secretion.

Third, the two forms of *granular cast* have probably different modes of origin. In the case of the *dark granular cast* the cells have undergone complete disintegration, and the products of this form a closely-packed, dark, granular mass. If many red blood-disks happen to be in the tubule and share the breaking up, a yellowish tinge is communicated to this form of cast. In other instances the granular matter is less abundant, and a *pale* granular cast is the result. The granules here are less easily accounted for. They may result from a similar disintegration of cells fewer in number, or they may be due to a precipitation of granules from the albuminous substance of the hyaline cast, similar to that which occurs in the so-called cloudy swelling of cells. They would then be the result of the further metamorphosis of a hyaline cast.

Fourth, the *oil cast* is a like product. Here the cells have undergone a fatty degeneration, some having completely broken up into fatty globules, others retaining their continuity and shape, forming compound granule-cells and other forms of fatty cells. The oil-drops and fatty cells are seldom so abundant that they form a closely-packed mass constituting the cast, but they are more or less separated by the hyaline basis referred to. Fatty casts in urine are apt to be accompanied by free oil-drops and free fatty cells.

Fifth, *hyaline casts* are the simplest form of cast. They are delicate, structureless, or almost so, and composed of the transparent substance already referred to. They are of different widths, even when produced in the same tube, according as it is bereft of its epithelium or as the latter remains adherent. In the former case a hyaline cast of "large" diameter is produced, in the latter, one of "small" diameter. The range of width thus produced is from .025 to .05 mm. ($\frac{1}{1000}$ to $\frac{1}{500}$ of an inch). Hyaline casts are sometimes so delicate and transparent as to be scarcely visible, and require care in illuminating the field of view of the microscope to bring them out distinctly. They are also often characterized by peculiar indentations or partial fractures. Hyaline casts occur in all forms of renal disease.

Sixth, *waxy casts* are also hyaline, but more solid and glistening in appearance, more highly refracting, and apt to present a yellowish tinge. From their supposed resemblance to molten wax, they have been called "waxy;" but they bear no essential relation to the so-called "waxy" or lardaceous or amyloid kidney, by all of which terms it is known. The material of which they are composed has, at least, different refracting properties from that of the ordinary hyaline cast, and probably originates differently. It will be seen presently that it is this form of cast with regard to which there is most unanimity in ascribing it to a fusion and hyaline transformation of desquamated epithelium, or of other cells within the tubules. The objections which lie in the way of admitting such an origin of the simple hyaline casts do not exist here, and it is not unlikely that they thus arise. It should be clearly understood, however, that the transformation is not the so-called waxy or amyloid transformation, the presence of which in the blood-vessels, tubules, and cells of the kidney constitutes the form of kidney disease known under that name. For these waxy casts do not, as a rule, strike the iodine reaction of the amyloid change. That they do occasionally is attested by two instances referred to by Bartels,* and others have reported instances. I have many times carefully and systematically tested them, without ever having obtained the reaction. Bartels suggests that the age of the material forming the cast may have something to do with the transformation into true amyloid material. And Rindfleisch† also says that he is convinced that casts which are long retained in the urinary tubules, especially in the bends of the looped tubes, undergo a glassy swelling, and assume the micro-chemical characters of amyloid substance, striking the iodine reaction, and that, too, in kidneys which are not otherwise amyloid. That they are not always the altered epithelium of the tubes is evident, for the reason assigned by Rindfleisch: in the first place the epithelium is seen well preserved between the casts and the basement membrane, and in the second, it is only in the highest degrees of the amyloid degeneration of the kidney that the cells are involved.

Again, waxy casts are found in all forms of chronic renal disease, it is asserted by some in chronic interstitial nephritis more frequently than in the amyloid form.

VIEWS OF DIFFERENT OBSERVERS AS TO THE NATURE AND FORMATION OF CASTS.

Dr. A. Burkhart, in a successful prize essay‡ presented to the medical faculty of Tübingen, in 1871, furnishes an interesting historical sketch of the study of casts, from the time of their discovery to the date of his essay. Although Simon is the reputed discoverer of casts, several observers had previously published descriptions of objects found in urine, which were evidently casts. The first of these was Vigla, who, in a paper on the microscopic constituents of urine, published in a journal called *L'Expérience*, in 1837, spoke of "finely granular longish albuminous plates." He gave no further description, and did not state in what kind of urine they were found. In 1838, Donné, in the same journal, denied the occurrence of these albuminous plates. To this Vigla replied that he had observed them in the urine of Bright's disease. In the same year, 1838, Rayer, in his treatise on diseases of the kidneys, described certain membranous, irregularly-shaped, finely granular, white or yellow lamellæ as occurring in albuminous urine, but said nothing of their composition. The first unmistakable description of these bodies was given by Nasse, of Marburg, in a notice published in *Schmidt's Jahrbuch*, in 1838, of Donné's plates of urinary sediments, and more clearly in a paper by him on the microscopical constituents of the urine in Bright's disease, published in 1843.[*] Simon first described casts as constituents of urine in Bright's disease in his work on practical chemistry, in 1842.

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* Bartels, in Ziemssen's Cyclopædia of Medicine, vol. xv. p. 90.

† Rindfleisch, Patholog. Histol., New Syd. Soc. Trans., vol. ii., 1872, p. 144. Fifth German edition, 1878, p. 443.

‡ Burkhart, A., Die Harncylinder mit besonderer Berücksichtigung ihrer diagnostischen Bedeutung. Gekrönte Preisschrift. Mit einer Tafel. Berlin, 1874.

Henle was the first to study casts *in situ* after he had previously examined them in the urine of a case of Bright's disease. This he did in 1844,[†] and then asserted their *fibrinous* composition, whence the term "fibrinous" cast still in use. From this time forward numerous communications appeared, and by 1845 the presence of casts in the urine of Bright's disease was an acknowledged fact.[‡] In this year Scherer published Heller's theory, according to which casts were the result of congestion and exudation of liquor sanguinis.

To pass to more modern observers, Traube also held that casts are composed of fibrin, which is caused to exude by a high degree of intravascular pressure.

At the present day Dr. George Johnson[§] says the "basis of all renal tube casts is fibrin within the uriniferous tubules; but these casts assume various appearances, according to the nature of the products which they contain and the condition of the tubes in which they have been moulded."

Dr. Beale[||] says, "the transparent material probably consists of a peculiar modification of an albuminous matter possessing somewhat the same characters as the walls of some epithelial cells, the elastic laminæ of the cornea, etc., but not condensed like these structures." This, according to him, is the basis substance, which, becoming solid, entangles epithelial cells, nuclei, granular matter, blood-corpuscles, or whatever may be in the tube at the time the effusion occurs; or which solidifies in the shape of a hyaline cast, if the tube be empty, or the epithelium so firmly adherent that the cast slips out without detaching it.

Dr. Dickinson[¶] believes that, as a rule, fibrin forms the basis of all casts, but says, "it sometimes happens that cylinders are formed in the urine, which appear to consist entirely of compacted epithelial cells, or of epithelial cells held together by fibrin so small in amount as to be barely perceptible."

Dr. Grainger Stewart[**] says tube-casts are composed of coagulated fibrin with altered epithelium and not unfrequently blood-corpuscles. Weissgerber and Perls[††] are among the most recent who adhere to the view that casts are formed of exuded fibrin, while Robin, as early as 1855, protested against the use of the term "fibrinous" cast, as being erroneous.

Axel Key,[‡‡] having shown that the chemical characters of casts were incompatible with a fibrinous composition, early claimed that at least the so-called "hyalin gelatinous" and "hyalin waxy" casts are composed of desquamated epithelium which has fused and degenerated into a hyaline mass, and that dark granular casts are also formed by an agglomeration of degenerated epithelial cells. O. Bayer[§§] asserted that all varieties of casts originate in this melting together and transformation of cells. Schachowa,[*] in some experiments upon the artificial production of nephritis in dogs, by means of cantharides, obtained results which sustained the same conclusions. On the other hand, Œdmansson[†] claimed that all casts originate as a secretion from the epithelial cells lining the tubules, and Œrtels[‡] defends the same view.

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[*] Nasse, Medizinischen Correspondenzblatt rhenischer und westphalischer Aerzte, No. 8, S. 121, 1843.

[†] Henle, in Henle und Pfeufer's Archiv, Band i., Heft i., S. 60, 1844. Henle, in Zeitschrift für rationelle Medizin, Bd. i., S. 68.

[‡] See the work of Burkhart alluded to for a full historical sketch, more particularly of German authors.

[§] Johnson, Lectures on Bright's Disease. New York, 1874.

[||] Beale, Kidney Diseases and Urinary Deposits. Philadelphia, 1869. P. 339.

[¶] Dickinson, W. Howship, On the Pathology and Treatment of Albuminuria. Second edition, London, 1877. P. 19.

[**] Stewart, Grainger, Bright's Disease. Second edition, New York, 1871. P. 80.

[††] Weissgerber und Perls, Archiv für experiment. Pathologie, Bd. vi., 1876.

[‡‡] Axel Key, Om de k. Tubularafgiutningarnas olika former och bildning vid sjuck donari Njuarnel. Med. Archiv, i., 1–39, Stockholm, 1863. Schmidt's Jahrbuch, 1862.

[§§] O. Bayer, Ueber den Ursprung der sogenannt. Fibrincylinder des Urins, Archiv für Heilkunde, 1868, S. 136.

Langhans, in a recent article,[§] says that while many casts arise from a metamorphosis of cells contained in the uriniferous tubules, he is far from claiming that all casts originate in this manner. It is especially the waxy casts that are thus formed, while the pale homogeneous cylinders are a kind of secretion from the epithelium. According to Langhans, the cells which undergo conversion into waxy casts may be either the desquamated epithelium of the tubules, lymph-corpuscles, or red blood-disks. In either event, first melting into one another, they break up into a finely-granular mass, which subsequently undergoes a glass-like transformation. This begins at the periphery, and extends thence towards the centre. A yellowish tinge and more highly-refracting character result when the cells thus converted are red blood-disks.

Rovida,[||] whose observations on the nature of casts have been alluded to, makes but three varieties of casts,—the colorless, the yellow hyaline, and the epithelial, of which he considers the colorless and the yellow hyaline a secretion from epithelial cells.

Bartels[¶] admits three modes of origin for casts. First, that dark granular casts originate directly by an agglomeration of degenerated epithelial cells, by which agglomeration I infer also he forms epithelial casts, although he makes no direct statement to that effect. He insists, also, that in every case in which he has examined microscopically thin sections of diseased kidneys whose tubules were blocked by the dark granular casts, the tubules invariably exhibited an epithelial lining. He admits, however, that the theory of Key and Bayer, that the epithelium thus shed is rapidly reproduced, may be correct. Secondly, that the yellow (waxy) casts arise as a species of secretion from the epithelium. Third, Bartels holds that certain "homogeneous, transparent, lightly-streaked or faintly-shaded varieties, or the forms which are so delicately stippled with the finest granules or minute oil-drops, in a word, the casts which are most rightly called hyaline, are formed by a coagulation of the albumen and its derivatives secreted with the urine." Their occurrence he considers entirely dependent upon the albumen mixed with the urine.

Rindfleisch[**] thinks the matter is not yet ripe for decision. He says that he has long favored the view that the epithelial cells of the straight tubes furnish a solidifiable colloid material in their protoplasm, which they pour out into the lumen of the tubules, and he gives a drawing in his work on Pathological Histology, which he believes lends support to this view.

At the same time he says he is forced to admit, with Klebs, that this may be a post-mortem product, or the result of a method of preparation; also, that casts may be the result of a liquefaction and fusion of red blood-corpuscles; and finally, that for the present the matter must rest with the statement that a fluid, albuminous substance is poured out into the lumen of the tubule, which coagulates, and that thereby the fibrin cylinder is formed. In the next paragraph, however, under "amyloid infiltration," he says that in advanced stages of this condition, when alone the epithelium becomes involved, casts may be formed by the fusion of the infiltrated cells.

Charcot[††] is not at all explicit, but denies that they are fibrinous, and considers that some (certain granular casts) are made up of broken-down epithelial cells, others (hyaline and some granular) of an albuminous substance, while epithelial casts are agglomerations of epithelial cells more or less altered.

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[*] Schachowa, Untersuchungen über die Niere. Dissert., Bern, 1876.

[†] Œdmansson, quoted by Bartels, *op. citat.*, p. 84.

[‡] Œrtels, Experimentelle Untersuchungen über Diphtherie, Deutsches Archiv für Klin. Med., Bd. viii., S. 292.

[§] Langhans, Theodor, Ueber die Veränderungen der Glomeruli bei der Nephritis nebst einigen Bemerkungen über die Entstehung der Fibrincylinder, Virchow's Archiv, Bd. 76, erstes Heft, 1879, 85.

[||] Rovida, Ueber das Wesen der Harncylinder, Moleschott's Untersuchungen zur Naturlehre des Menschen und der Thiere, Bd. xi., S. 1.

[¶] Bartels, *op. citat.*, 84, 85, 86.

[**] Rindfleisch, Pathological Histology, New Syd. Soc. Trans., vol. ii., 1873, pp. 144. Fifth German edition, 1878, 442, 443.

[††] Charcot, On Bright's Disease, translated by Millard. New York, 1878. P. 29, *et seq.*

THE PART OF THE URINIFEROUS TUBULE IN WHICH CASTS ARE FORMED.

Casts may be formed in all parts of the tubules of the kidney, but it is commonly asserted that most of those found in the urine come from the looped tube of Henle and the collecting-tubes, because from these escape is easier than from the convoluted tubules; not, however, easier than from the *intermediary* or *intercalary* portion, in which each ascending limb terminates before it empties into a collecting-tube. This part of the tubule is identical in structure with the convoluted portion. Rindfleisch says that casts are formed only exceptionally in the convoluted tubules, and that when found *in situ* in the cortex of the kidney it is in this intermediary piece of Schweigger-Seidel, and not in the convoluted portion, that they usually lie. While there are difficulties in the descent of a cast from the cortex of the kidney, and while such descent is doubtless more rare, I do not consider it impossible. The cast is smooth, flexible, and may contract its dimensions very considerably. Under these circumstances the very considerable *vis a tergo* of the newly-secreted urine may be sufficient to force it downwards along the loop of Henle and through the intermediary piece into the collecting-tube. It is scarcely necessary to say that a blocking up of the convoluted tubules by casts is a very much more serious matter than of other portions, and that if it were of frequent occurrence a large proportion of cases of Bright's disease would be immediately fatal.

THE SIGNIFICANCE OF CASTS FOUND IN URINE.

It is said that hyaline casts are found in urine from healthy kidneys,* and that epithelial casts are found as a result of the administration of diuretics;† but while I have found, in a very few instances, casts in urine in which there was at the same time no albumen, and rather more frequently albumen in urine without casts, I have never found true casts in urine from what I considered normal kidneys. In cases of irritation of the bladder, ureters, and pelvis of the kidney, there occur what, following Dr. Beale, I call *mucus casts*, very long, delicate, hyaline, faintly striated, often branching casts. They are evidently formed in the largest collecting and excretory tubes, and are probably mucus. They are due to irritation, propagated from irritated mucous surfaces. Sometimes their resemblance to casts is even closer, in consequence of precipitation upon them of granular urates or amorphous phosphate of lime. But this granular deposit, when present, encrusts everything which may be in the urine, epithelial cells, foreign matter, etc., besides forming a copious precipitate of its own.

It is not very unusual to find cases in which there have been albuminuria and casts, where, as improvement progresses, the albuminuria disappears and casts are found in the urine for some time longer. I have observed this in one or two hospital cases, and I suppose, if watched for, more frequent instances would be found. My friend Dr. Milner, of Chester, Pennsylvania, having had his attention called to the subject by a publication of my own, in which it was stated that during recovery from acute Bright's disease casts might be found in the urine some time after albumen had disappeared, examined carefully the urine of a child recovering from scarlatinal nephritis, and found casts for two weeks after albumen had disappeared. Such cases require no further comment. Bartels correctly says, "The formation and the excretion of a cast need be by no means contemporaneous events."

An adult woman, on admission to the Pennsylvania Hospital, exhibited a slight puffiness and pallor of countenance, which suggested an examination of her urine. No albumen was found by the physicians at the hospital, but a considerable number of slightly granular and hyaline casts. Dr. James H. Hutchinson sent me a specimen of the urine, and by no test could I discover the presence of albumen, but found delicate granular and hyaline casts. *One week later* a searching examination of the urine of the same patient revealed *neither casts nor albumen*. This last observation settled the question. The case had been one of Bright's disease which was convalescent. Finally, A. Henderson reports for Osler, in the *Canada Medical and Surgical Journal*, Montreal, 1879, vol. vii., a case of persistence of casts and blood-corpuscles in urine after albumen had disappeared. Now, if we add cases of contracted kidney, in which occasionally for a time either casts or albumen may be wanting, this category is complete.

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* See Charcot, On Bright's Disease, New York, 1878. Charcot says this was first pointed out by M. Robin in 1855, and confirmed by Axel Key, Rosenstein, and many others.

† Ibid.

On the other hand, occasional instances of true renal albuminuria, and large albuminuria without heart disease, are sometimes met in which casts are absent. But even here, if the opportunity for repeated examinations is present, there comes a time when a few casts will be found, and later an examination may fail to discover them. Such a case of supposed amyloid disease of the kidney I have now under observation, fully noted. I have notes of one other case of copious albuminuria, in which three careful examinations failed to discover casts, and the patient subsequently died; but no post-mortem examination was made. My own relation to the case was confined to the urine examination. It may have been one of heart disease, although even in albuminuria from heart disease my experience goes to show that where albumen is abundant casts are generally present. Finally, I am confident that there are many instances of albuminuria, where the absence of casts is reported, in which the examination is at fault, being carelessly performed.

From these remarks it may be inferred that I attach no small significance to the presence of casts in the urine. Although I have never seen casts in the urine from healthy kidneys, I will not deny the possibility of its occasional occurrence. But when we remember that urine is seldom investigated with the microscope, unless we are searching for the cause of an evident or suspected ill health, we may lay it down as a rule, to which exceptions are so rare that they may be ignored, that when casts of the uriniferous tubes are found in a specimen of urine, the kidneys whence they come are not in a normal state. That state may be temporary, but if so the casts pass away with it, while if it is permanent, the casts continue during its existence. The doubtful cases are, of course, those unaccompanied by albuminuria. I presume no one will claim that the kidneys which shed both casts and albuminuric urine are healthy. Cases of the former category require, of course, to be studied, and the issue will always clear itself. I cannot comprehend the position taken by Charcot in his recent work, where, in addition to saying that, "in a general way, the clinical importance of urinary casts has been very much exaggerated," he also says of epithelial casts, "it may be said that, from a clinical point of view, they do not possess much importance;" and of hyaline casts, "even when renal disease exists, the hyaline casts are of no interest, except from their long persistence."

When we come to ask the question, whether by the kind of casts present we can diagnose the nature of the renal malady, a less positive reply can be given; but, nevertheless, some of the varieties give us considerable assistance in making a diagnosis. The following general statements may be made:

1. Hyaline casts are found in all forms of Bright's disease, as well as in temporary congestions of the kidney, active or passive.

2. Epithelial casts are found in acute, subacute, and chronic parenchymatous nephritis. In the latter two forms the cells are generally degenerated and fragmentary.

3. Blood casts are found in acute parenchymatous nephritis, and where hemorrhages have occurred in the kidneys.

4. Pale granular casts are found in interstitial nephritis (contracted kidney) and chronic parenchymatous nephritis.

5. Dark granular casts are found in parenchymatous nephritis, acute and chronic, and rarely in interstitial nephritis.

6. Waxy casts are found only in chronic Bright's disease, and attend either of the three principal forms.

7. Oil casts are found in subacute and chronic forms of Bright's disease, and may attend any of the three principal forms, but are most numerous in chronic parenchymatous nephritis (fatty kidney).

8. Free fatty cells and free oil-drops are found in chronic parenchymatous nephritis.

9. The form of fatty cell known as the compound granular cell is found in acute and chronic parenchymatous nephritis.

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CONSOLATION FOR THE PREMATURELY BALD.—Prof. Fournier, in a lecture on alopecia, says of baldness, "There is nothing ridiculous or malformed about it, and it confers upon the physiognomy an expression of wisdom, experience, and venerability. It adapts itself marvellously to certain heads which would be deformed by a wig, and is the severe beauty represented in sculpture by the classic head of Æschylus."

AN ILLUSTRATION OF THE NECESSITY OF ACCURATE DIAGNOSIS.

BY WM. R. D. BLACKWOOD, M.D.

Read before the Philadelphia County Medical Society, January 14, 1880.

DURING a visit to one of my families last summer, I was asked to see a young lady temporarily living in their residence. She was stated to be an intense sufferer from supposed neuralgia, which affected mainly the lumbar spine, with extension to the perineum, the hypogastric region, and along the inner aspect of the thighs, with frequent nervous invasions of more distant localities. Her malady was invariably intensified during defecation, usually during urination, and occasionally whilst menstruating. It made her a burden to herself and a trouble to her parents, whose circumstances were seriously straitened by the expense incurred in apparently unavailing effort towards her relief or cure. Her disability ensued closely after a fall down-stairs, during the abrupt descent of which she fractured her left radius and contused her back. In the rural home the usual family attendant was a man popularly (from what I learn) good for lyings-in, but not for much else, and he lost little time before seeking the aid of a confrère famed also in the neighborhood as a bone-doctor, especially in the veterinary line, but backward in routine family practice. Between them they "set" the radius, the utility of which performance remains evident, as tested by pronation and supination, to this day. In course of time union took place, meanwhile the neural disturbance assuming a more pronounced character. As detailed by the patient, the treatment seems at first to have been of a general do-nothing nature aside from the arm lesion, but, that mended, the surgical attendant, seeing that no relief ensued, bethought him of more radical procedure, and, selecting the anus as the focus of her ill health, at once detected a *fissure*, for which forcible distention was practised, though from description I presume, happily for her, not very thoroughly. Succeeding this, *ulcer* was attacked by caustic applications, and *spasm* by suppositories. After three months of to-and-fro diagnosis, the lady was urged to see a gentleman of considerable repute in an adjoining Western city, who, repudiating all that had been done, declared the entire phenomena to be resultant from ovarian hyperæmia, and hysterical in type beyond contradiction; a statement not, however, at all concurred in by his country associates. For two months thereafter the young lady underwent a course of treatment precisely similar to that enjoyed by a Strasbourg goose, nailing to the floor before a hot fire only excepted. She was fed and gorged to repletion with food she liked and food she detested, and additionally galvanized, faradized, and massacred—I mean massaged—to his heart's content and to her heart's sorrow, to his benefit and to her injury, for, with suffering unrelieved, nervous tension abnormally heightened, digestive organs worried into stubborn inactivity from overwork, and a life of prospective invalidism before her, she was miserable indeed. Her parents gave up the fight, believing her case beyond relief, and for nearly two years thereafter she suffered more or less, relieved only by narcotics, to which, however, to her credit be it said, she did not become a slave, despite her malady. Her kind friends here urged her to visit them, if only for change of scene, and, succeeding, sent her home thoroughly restored to health, and that with two weeks' attendance only, and no drugging whatever.

The point aimed at in the relation of this case is the necessity, in any obscure problem, of thorough investigation and correct diagnosis before instituting treatment. The physician upon whose skill the greater reliance was, naturally through reputation, placed, contented himself with a now fashionable plan of treatment, and made an ignominious failure. He made no physical examination of the uterine system, and his course was therefore based upon a self-complacent assumption of superiority which future events proved that he did not possess. His therapeutic measures were quackery pure and simple under the circumstances. Massage in its sphere (which is limited) is an admirable remedy; electricity (with its wider applicability) is invaluable; diet is all-important,—and the phrase does not by any means imply low living, as popularly imagined. Either of them may, in properly selected cases, work wonders; but when prostituted by the physician, be he regular or an advertiser, and made mere money-getting agents, from the folly of the numerous class of make-believe invalids, whose lives are worthless to themselves through the possession of means which preclude the necessity of exertion, and who, in killing time, class their physician with the opera, the milliner, and the modiste, they are worse than useless, for they encourage, as does alcohol, chloral, or the morphia habit, idleness and duplicity in the patient, and lead honest and honorable practitioners to look with doubt or positive disfavor upon what, in their hands, might be the means of good to many.

The family attendant made no pretension to excellence, relied upon his neighboring associate, and cannot, therefore, be blamable. His confrère, though evidently not brilliant, was within an inch of the corrigenda by long measure towards the close of his service, but thousands of miles distant so far as any benefit could result through his performances.

The case resolved itself very simply upon an almost superficial investigation. No anal, uterine, or ovarian affection existed. The spine proper was intact, but the coccyx had been dislocated or fractured at the sacro-coccygeal junction, and, though it could be partially pressed backward towards its proper line, it had so long been drawn inward by the ischio-coccygeus muscle as to retain a "set" nearly as perfect as that illustrated in her unfortunate radius. Excision of the bone was recommended, and agreed to cheerfully. I experienced no difficulty in effecting it, and she was well in ten days.

246 NORTH TWENTIETH STREET.

A STUDY OF THE CATARRHAL CONDITIONS OF THE STOMACH, WITH ILLUSTRATIVE CASES.

BY LOUIS STARR, M.D.,

Physician to the Episcopal Hospital, Philadelphia.

(Continued from page 269.)

PRIMARY CATARRH.—THE CHRONIC FORM.

A CHRONIC catarrhal condition of the mucous membrane of the stomach probably exists, and is in reality the causal lesion of very many cases of dyspepsia which are regarded as merely functional derangements. Independently of the hyperæmia accompanying pulmonary phthisis and organic diseases of the stomach, and also of the secondary affections already referred to as depending upon obstruction of the portal circulation, chronic gastric catarrh may originate in several ways.

It often follows repeated acute attacks, each repetition leaving the mucous membrane more susceptible to irritants; this is particularly apt to result when the subject is debilitated, or surrounded by bad hygienic influences. At other times it is slowly established by the use of unsuitable food, or by habitual over-indulgence in alcoholic stimulants. These latter causes often co-operate, and it is well to remember that food is unsuitable not only when of poor quality and badly cooked, but also when, though unexceptionable in these respects, its preparation for stomach digestion is slighted, either from absence of teeth or from too great haste at meals.

The histories of several patients recently under my care will serve to elucidate the etiology and clinical features of this form of catarrh.

Case IV.—John ——, æt. 64, applied for treatment in June, 1879. He was a gardener by occupation; was inclined to occasional intemperance, and had always been accustomed to coarse food, being especially addicted to potatoes, tea, and pie. He stated that he had had more or less dyspepsia for fifteen years, but the distress had become greater in the past three or four years, since he had made enough money to enable him to live in idleness. His symptoms were impaired appetite; frequent eructations of flatus with small quantities of sour liquid and partially digested food; epigastric pain, increased by eating and relieved by eructation; constipation; occasional sensations of oppression in breathing, and palpitation, the last two symptoms invariably and promptly disappearing on the expulsion of flatus from the stomach. His tongue was heavily coated, his abdomen was distended, and there was some tenderness in the epigastrium, with extended gastric tympany. The pulse was 60 a minute; there were no signs of cardiac lesion.

A more appropriate diet, with some light occupation, was advised, and a mixture of tinct. nucis vomicæ, acid. muriatic. dil., and inf. quassiæ, was ordered after each meal. He never returned, however, to report progress.

In the next case the tendency of what the patient was pleased to call "moderate drinking" to produce catarrh was probably enhanced by his occupation.

Case V.—John ——, æt. 56, acknowledging to several drinks of spirits daily, was admitted to the medical ward of the Episcopal Hospital on October 28, 1879. He was a carpet-weaver by trade, and was in the habit, while at work, of bending over his loom, making pressure on the epigastrium. His health had been good until 1875, when he began to be troubled with sensations of weight and pain in the epigastrium. Afterwards these symptoms steadily increased in severity.

On admission his general appearance was good, but he complained of pain in the upper third of the abdomen, and of flatulent distention after meals, which he was able to eat with moderate relish. His tongue was covered with a thick yellow coating, there was redness of the fauces, his breath was heavy, and there were frequent eructations of flatus, especially after eating. His bowels were moved daily. The abdomen presented no alteration, except epigastric distention and extended gastric tympany. There was no cough, the heart and lungs were healthy, and the urine was normal.

He was placed upon the ordinary "house diet," the upper third of the abdomen was painted with tincture of iodine, and a mixture of ten grains of bicarbonate of sodium and half a fluidounce of compound infusion of gentian was directed thrice daily.

On November 3 he became somewhat constipated, and was ordered, in addition to the alkaline mixture, the laxative pill of ipecacuanha, cinchonidia, and aloes and myrrh. This secured a daily evacuation of the bowels.

On November 8 the alkaline mixture was stopped, and the following prescription directed:

℞ Strychniæ sulph., gr. ⅓;
Cinchonidiæ sulph., gr. xxiv;
Acidi muriatici dil., fʒii;
Aquæ, q. s. ad f℥vi.—M.

S. A tablespoonful to be taken, well diluted, after each meal.

On November 10 he felt well enough to return to work, and was discharged.

The cause in Case VI. seems to have been entirely one of occupation. The state of the tongue and mouth indicated a more irritable condition of the mucous membrane of the stomach than in the preceding cases.

Case VI.—George ——, æt. 41, a night-watchman, of temperate habits, was admitted to the Episcopal Hospital on October 8, 1879. His sickness had begun three weeks before, with pain in the epigastrium and dyspeptic symptoms, and he attributed it to his night-work, which was principally in the damp cellar of a large dry-goods warehouse.

At the date of admission he was much reduced in strength. His tongue was lightly coated in the centre, and there were a number of small aphthous ulcers along its edges, and upon the inside of the cheeks. His appetite was poor; there were frequent eructations of flatus and acid liquid; the bowels were confined, and he had hemorrhoids which bled slightly after an evacuation. There was slight tenderness over the right lobe of the liver; in other respects the abdomen was normal. His pulse was 80, lacking in force, and he sometimes had palpitation of the heart on exertion, but no cardiac lesion could be detected. The lungs also were healthy.

The patient was placed upon a diet of milk, with one-third lime-water, farinaceous preparations, and meat-broth. Ten grains of bicarbonate of sodium and half a fluidounce of compound infusion of gentian were ordered thrice daily, together with a mouth-wash of chlorate of potassium, an astringent ointment for the hemorrhoids, and an occasional enema to evacuate the rectum. Under this treatment he improved rapidly.

With the next patient the main cause was the want of teeth, although other conditions of her life assisted in the production of the gastric disorder.

Case VII.—A. C., spinster, æt. 54, a drawing-teacher and wax-flower maker, was admitted to the Hannah ward of the Episcopal Hospital on October 1, 1879. Her life had been anxious and laborious; she had only been able to earn enough money to provide herself with the bare necessaries of existence, and during the past five years had not had a sufficient number of teeth to perform the act of mastication properly. In consequence she had been much troubled with dyspepsia, and her health had gradually failed until June, 1879, when she became so much worse that it was with the greatest difficulty that she kept at work.

When admitted, she was thin and weak; her skin was sallow and dry; she was nervous, often low-spirited; was languid and drowsy after meals; slept poorly at night; was troubled with cold hands and feet, and had frequent attacks of headache and giddiness. Her tongue was flaccid, clean, and smooth, as if deprived of epithelium, along the edges, and covered with thick white fur in the centre. She wore, for the sake of appearance, a very rude imitation of teeth, made by herself of wax, and when these were removed all that remained of the teeth were a few decaying roots. Her breath was heavy, the fauces were red and relaxed, the pharynx was covered with granulations, and she stated that early in the day she was in the habit of hawking up quantities of tenacious mucus. Her appetite was poor; when she ate she cut her meat into small pieces with scissors, reduced whatever other solid food she had to fragments as best she could artificially, and, the wax teeth being removed, bolted the whole with little attempt at insalivation.

She complained of a sense of fulness and pain in the epigastrium, increased by taking food; there was a constant disagreeable taste in her mouth, and frequent eructations of flatus, acid liquid, and particles of undigested food, followed by very trifling alleviation of the abdominal discomfort. Occasionally, on rising in the morning, she vomited a small quantity of yellow, very bitter mucus. The bowels were moderately regular. The abdomen was somewhat distended, particularly in the epigastric region, and in this position there was slight tenderness on palpation. Her pulse was weak, and under the excitement of the examination ran up to 96; the heart and lungs were healthy. The urine was passed freely, had a sp. gr. of 1.022, was alkaline in reaction, non-albuminous, and on standing deposited a moderately thick white sediment.

The patient was ordered a diet consisting of milk with lime-water (3–1), beef-tea, chicken-broth, and a limited quantity of bread, and farinaceous food cooked with milk. A small blister was applied to the epigastrium, a prescription containing sulphate of strychnia and dilute muriatic acid was directed three times a day, and the bowels regulated by an occasional pill of ipecacuanha, cinchonidia, and aloes and myrrh.

At the end of two weeks, as the improvement was rather slow, a pill of nitrate of silver, gr. ⅙, and extract of taraxacum, gr. iij, thrice daily on an empty stomach, was substituted for the strychnia mixture. After the lapse of another fortnight the improvement was sufficient to warrant the omission of one of the nitrate of silver pills, and one week later they were discontinued, and a mixture of tincture of nux vomica, ♍ v, dilute nitro-muriatic acid, ♍ x, and infusion of quassia, enough to make f℥ii, ordered after eating. At the end of November the silver pills were again given twice daily for two weeks, and then the acid mixture was resumed. Throughout the whole period of treatment the same diet was used, occasional blisters were applied below the xiphoid cartilage, and during the last two months ten grains of carbonate of ammonium were administered in milk before rising in the morning, with the effect of relieving the sick stomach and depression which were apt to be experienced at that time.

On December 8 she was strong enough to submit to the extraction of all that remained of the teeth, and on the 21st—her condition being vastly improved—she was discharged, with a warning as to the danger of a speedy relapse unless she obtained an efficient set of artificial teeth.

Together with the symptoms noted in these cases there are others of importance. Thus, when there is irritation of the gastric mucous membrane, thirst is increased, and there may be a sense of burning in the stomach, sometimes lessened by cold drinks, at other times by warm drinks. The flow of saliva is often excessive, especially during sleep, when it runs from the mouth upon the pillow. Flushes of heat, dryness of the palms of the hands and soles of the feet, slight catarrhal affections of the air-passages, harshness of the skin and hair, and other evidences of impaired nutrition, are frequently observed.

The nervous system may be affected, as in Case VII., the condition at times amounting to marked hypochondriasis, as in the next instance.

Case VIII.—Elizabeth ——, æt. 54, was admitted to the Episcopal Hospital on November 17, 1879. She had been living for a number of years on charity, and had been poorly housed and badly fed. She gave one year before admission as the date of the commencement of her illness, and attributed her symptoms to the presence of a tape-worm.

She was emaciated; her skin was sallow and dry; her tongue was loaded with a thick white coating; her breath had a fetid, almost fecal odor; there was anorexia, and her bowels were obstinately constipated. She complained of gnawing pain either in the right or left hypochondrium. The abdomen was painless on palpation and normal in appearance, but soon after it was uncovered for examination the recti muscles were thrown into irregular contraction, causing undulatory movements of the abdominal wall. These movements, as well as the gnawing sensations, were advanced by the patient as proof positive of the existence of an intestinal parasite. To remove this, and at the same time a supposed fecal accumulation, she desired that an opening should be made in the abdomen, and had selected a point just below the right costal border as the position for incision. There were no other signs of mental aberration. The lungs were healthy; there was a soft systolic murmur at the apex of the heart; the pulse was slow and moderately strong. The urine was normal. There was some difficulty at first in obtaining an evacuation of the bowels; but when she was isolated and carefully watched this was readily accomplished, and she soon left the hospital in a state of disgust.*

The urine is usually altered in chronic gastric catarrh, the change consisting in a deposition of urates, earthy phosphates, and oxalates soon after its evacuation. It is often high-colored, cloudy, and alkaline on passage, with a specific gravity varying in some degree with the amount of fluid taken at the meal preceding.

In my experience the tongue shows one of three conditions: first, it may be broad, pale, indented by the teeth, covered with a thin white coating, through which, along the tip and edges, enlarged and reddened fungiform papillæ protrude; second, the whole tongue may be redder than natural, either smooth and varnished, or roughened by enlarged fungiform papillæ, or by aphthous patches; third, the organ may be large and loaded with a white or yellowish coating, through which, at the tip and edges, enlarged and reddened fungiform papillæ may be seen. The first alteration is seen in atonic conditions, the second when there is considerable gastric irritation, and the third where, after indulgence in eating or drinking, the catarrh has assumed temporarily a more acute type.

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* Histories of Cases V., VI., VII., and VIII., taken from the ward notes of Dr. H. D. Harvey and Dr. T. H. Cathcart, resident physicians.

Vomiting, present as an occasional symptom in but one of the cases that have been given, is a much less prominent feature of primary than of secondary gastric catarrh. In the latter large quantities of mucus are often ejected, the state of the mucous membrane of the stomach being similar to that of the bronchial tubes in bronchorrhœa. In the dyspepsia of drunkards vomiting of mucus is often a prominent feature, the gastrorrhœa probably depending more upon the congestion due to coincident hepatic disease than to the direct irritation of the alcohol; that is, being to a great extent, at least, secondary in nature.

The stools are commonly scanty, dry, scybalous, light-colored, and sometimes covered with tenacious mucus; their expulsion is usually attended with the discharge of flatus. Infrequently, and only where there is an accompanying intestinal catarrh, the stools are semi-liquid, frothy, and chiefly composed of undigested food. Constipation and diarrhœa may alternate.

A careful regulation of the diet is almost as important in the treatment of chronic as of acute catarrh of the stomach. Where there is much irritation, a diet of milk and lime-water is to be selected, and when there are no teeth the food should be temporarily of such a kind as to require no chewing, the final object, under both circumstances, being to enable the patient to return gradually to an ordinary, plain diet. This end is accomplished when we give the stomach an opportunity to rest and recuperate, by removing the cause of irritation and diminishing its work, and also in the latter instance by supplying artificial appliances for mastication.

In the usual run of cases it is only necessary to direct a plain diet, considerably restricting the quantity of starchy food, and making certain that the food used is of good quality, well cooked, and eaten in moderate quantities and slowly. No alcohol should be allowed, and injurious occupations should be modified as far as possible.

Very much may be done by medication. The treatment by alkalies is perhaps the most uniformly successful. The best alkali is bicarbonate of sodium; it may be given, when there is no decided irritation of the mucous membrane, with compound infusion of gentian, or with infusion of columbo or quassia, either bitter adding to the efficiency of the soda. In very chronic cases nitrate of silver may be prescribed with advantage: to produce good results it must be given when the stomach is empty. Dilute muriatic or nitro-muriatic acid, in combination with a bitter, may be used from the outset in atonic cases, but when there is an element of irritation they should not be employed until after a course of bicarbonate of sodium. For the habitual constipation I have lately used with very satisfactory results the ipecacuanha pill before referred to, resorting in very obstinate cases to a pill composed of ext. belladonnæ, gr. 1/6, ext. gentianæ, gr. i, ext. colocynth. comp., gr. ij, and ol. cari gtt. ss, administered at bedtime. The painful sensations in the epigastrium are greatly relieved by counter-irritation.

CHANCRE OF THE NOSTRIL.

BY J. C. CUTTER, M.D. (HARV.),
Physician to Kaitakushi Hospital, Sappow, Japan.

I WAS consulted, the second week of May, 1879, by a young man of 25 years, single, an official in the department, for severe pain in fauces, with difficult deglutition.

Upon opening his mouth, a prominent enlargement of the tonsil of the left side, with a ragged-edged, excavated ulcer, having a thick, gray-white pellicle on its base, could be seen. The anterior pillars and the arches were injected. The submaxillary and post-auricular glands were enlarged on the left side. Movements of the jaw and pressure on the parts caused pain. He also complained of pain in the meatus of the left ear.

The pellicle was readily removed, and the ulcer touched with a solution of argent. nitrat. A gargle of potass. chlorat. was given him for frequent use; also oil to be placed in the external ear.

He came the next day. The white pellicle was again present. This day the solid nitrate was used. In a few days the ulcer contracted and healed, the pain in the ear subsided, and the submaxillary gland gave no further inconvenience.

He came a few days later. The mouth, fauces, and pharynx were dry, painful, and sore. The tonsil ulcer had healed. Now the arches and pharynx were injected deeply, white pellicles formed in the angle of the jaws, yet the right tonsil was not affected. The post-cervical glands were noticed to possess a peculiar cartilaginous feel.

I now asked him some questions. His daily duties required him to associate with persons whom he knew to be syphilitic. He used all possible means to avoid contagion, by means of cleanliness and isolation, having a dread of venereal. He denied having had sexual intercourse for months. He had had no trouble with his genitals. His health had been, in the main, excellent.

His genitals were carefully scrutinized, as well as his skin, and no initial lesion was to be found.

It now occurred to him to relate that in the month of March he had had a circumscribed, hard, painful lump on the ala of the left nostril, and that there had been a constant slight discharge from that nostril. The external appearance had attracted the notice of his friends, but he had paid little attention to it. After some days the pain had decreased, the inflammatory redness had disappeared, and soon he missed it altogether. At this time all nasal discharge had ceased. On examining the nose, a small cicatrix was discovered in the mucous membrane of the ala of the left nostril.

He was at once put upon a regular small dose of mercurial, together with iron and quinia, and also instructed as to hygiene.

Since then he has had sore throat, alopecia, some debility, scattered papules, and a few pustules. In June he was much depressed in spirits. In July, he had osteocopic pains in the wrists and tibial regions. Since August the mental depression has vanished; his weight has increased. His appetite and all his functions are normal. He has not been absent a day from duty. None of his intimate friends suspect that he has been poisoned.

The mercurial has been continued up to the present. On account of buccal and intestinal symptoms, the earlier dose has been reduced.

December, 1879.

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TRANSLATIONS.

Secondary Syphilitic Epilepsy.—Fournier, in an article on this subject in the January number of the *Annales de Dermatologie et de Syphiligraphie*, says that epilepsy occurring in the earlier stages of the evolution of syphilis shows very different symptoms from that variety due to lesions of the brain, and which ordinarily occurs in the later stages of the disease. The latter is well known, and has been described by himself in his recent work on syphilis of the brain. After giving notes of three cases out of a dozen which he has observed, Fournier gives the following conclusions: 1. It is impossible to regard the symptoms shown as due to any other cause than syphilis, for these attacks occur for the first time in adult age, while non-syphilitic epilepsy begins in youth. Non-syphilitic epilepsy does not begin and end abruptly. Again, in syphilitic cases, such exciting causes as lead- or other poisoning, alcoholism, worms, etc., may be excluded. Thus, syphilis only will account for the symptoms. 2. In every case observed the epileptic attacks have occurred in the earlier months of the secondary stage, just when nervous troubles are commonest, and most of the cases have been women, who are particularly liable to nervous syphilis. 3. The epileptic attacks occur simultaneously with the appearance of various other syphilitic manifestations, as skin troubles, adenopathy, alopecia, cephalalgia, insomnia, neuralgic pains, etc. 4. The epileptic symptoms pursue a parallel evolution with the other syphilitic symptoms. They appear when these are at their worst, they grow better as these improve. 5. As to the curative influence of specific treatment, in each of the cases noted by Fournier the epileptic disease was rapidly and certainly cured by the administration of mercury. Finally, the appearance of epilepsy at this stage of syphilis is not surprising. Secondary syphilis is exceedingly fertile in nervous troubles. In some individuals, notably in women, it gives rise to a state of general nervous disturbance. There appears to be a condition of erethism, which seems to accumulate until it discharges itself in a series of epileptic attacks. In a future communication Prof. Fournier intends to show the distinction between this secondary form of epilepsy and the tertiary form.

Oil of Eucalyptus a Non-Poisonous Substitute for Carbolic Acid.—Dr. H. Schultz (*Cbl. f. Chirurgie*, No. 4, 1880) remarks that the great drawback to Lister's procedure is that in some individuals the carbolic spray exercises a deleterious influence. Fatal cases of carbolic-acid poisoning, occurring in the antiseptic treatment, are now and then reported in the journals, and probably more numerous cases are not heard from. The great question of the hour, in connection with this subject, is, "Where can we find a substitute for carbolic acid?" This substitute must be—1, a good antiseptic; 2, it must be convenient to use; 3, it must be cheap; and, 4, it must be harmless. Now, in answer to the first of these requirements, it may be stated that Bucholtz has found that eucalyptus oil in a solution of 1 to 666.6 is inimical to bacteria, while carbolic acid only becomes so in the strength of 1 to 200. In addition, Siegen has shown that it causes the abatement of septic fever in rabbits where this has been artificially excited by the injection of pus. Binz has demonstrated that dilute eucalyptus oil prevents the wandering out of white blood-corpuscles, and is thus a preventive of suppuration. Finally, Siegen has shown that eucalyptus oil, even to a greater degree than quinine, prevents the fermentation of meat solutions. With regard to convenience of use, eucalyptus oil, distilled from the leaves, has an agreeable odor; it dissolves easily in alcohol and oil, and mixes easily and perfectly with pure paraffine.

Should eucalyptus oil come into use, its price may be considerably diminished. The leaves are at present quoted at nine marks the kilo in Germany (about one dollar per pound.—TRANS.). The question of harmlessness is perhaps the most important. Siegen took five grammes of the oil within two hours and a half without the least ill effect. Other experiments have given a like result. Eucalyptus oil may, therefore, be employed internally in intermittent fever, with possible advantage, and certainly without fear.

In the practical employment of eucalyptus oil, the open wound may be dressed with a bit of lint saturated with a ten per cent. solution of eucalyptus oil in olive oil, and outside of this may be laid gauze impregnated with eucalyptized paraffine (50 per cent.). The spray may be made of pure eucalyptus oil, or a solution in alcohol. For irrigation, the oil, alone or in alcoholic solution, may be mixed with water in various proportions, and shaken well before using, the resulting emulsion lasting quite a while. Schultz recommends the eucalyptus oil on theoretical grounds. A field is, therefore, open to the enterprising surgeon who first makes use of it in practice.

GIANT GROWTH.—Under the name of "giant growth" (*Rieserwuchs*) H. Fischer (*Cbl. f. Chir.*, No. 3, 1880; from *Deutsche Zeitschr. f. Chir.*) describes a condition of lengthening and thickening, either of an entire half of the body or of single extremities or parts of extremities. The condition may be either congenital or acquired. In one case of the former, occurring in a girl nine years of age, the hypertrophy affected the arm and leg of one side, which were longer and thicker than the other. The cutaneous veins were ectatic. Functions not altered. In another case of overgrowth of the right arm there was disturbance of sensibility, with trophic ulceration on the fingers. Motion unimpaired. Other cases are cited. In one of these the overgrowth was dependent upon a cavernous lymphangeioma. In another, elephantiasis of the penis was present, hypertrophy of the left lower extremity, and incipient change in the right. In one case small papules and blebs continually appeared on the thighs. From some of these a perceptible quantity of a lymphatic fluid flowed. This lymphangiectasis was apparently congenital.

Congenital "giant growth" is, according to Fischer, to be attributed to fœtal disturbances in the veins and lymph-canals, resulting from a malposition of the limbs in the uterus. No therapeutic measures avail. Acquired "giant growth" is such as is shown in the peculiar drum-stick-shaped finger of elephantiasis and the increase in length of the limbs following bone and joint troubles.

NOCTURNAL TERRORS OF CHILDREN.—Dr. Wertheimer (*Jour. des Sci. Méd.*, 1880, p. 44; from *Deutsches Archiv f. Klin. Med.*) recommends quiet, a large, airy, well-lighted chamber, and a light supper. Quinine, if the terror returns night after night, in the dose of two to four grains, bromide of potassium in the dose of four to eight grains an hour before retiring, sometimes adding a small quantity of chloral. General debility, etc., is to be combated by ol. morrhuæ, milk, iron, salt baths, and cold effusions.

TUBERCULOSIS FOLLOWING THE OPERATIVE TREATMENT OF FUNGOUS INFLAMMATION OF THE JOINTS.—E. Neumeister (*Cbl. f. Chir.*, 1879, No. 51; from *Inaug. Diss.*) shows, as the result of a statistical examination, that even in apparently favorable operations for fungous, that is tuberculous, disease of the joints, the patient is in danger of acute tuberculosis. That this tuberculosis is a result of an infection from the fungous joint cannot, he thinks, be proved.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MARCH 13, 1880.

EDITORIAL.

NEWSPAPER EXPERTS IN INSANITY.

THE course pursued by certain daily journals of this city in their criticisms on the case of Dr. Shulze, who was said by some of his friends to have been improperly detained in the Pennsylvania Hospital for the Insane, has been thoroughly discreditable. It would appear, to take the most charitable view of the matter, that they had judged the case of the alleged lunatic, and had pronounced their verdict, without waiting for the more strictly official investigation. When, subsequently, the jury and the commissioner appointed to examine into the affair, with the aid and advice of experts in insanity, arrived at a conclusion different from that attained by the newspapers, it was but natural that the latter should resent strongly such a deviation from their expressed opinion. It seems, however, that not only did these journals keep up a running fire of animadversion upon the witnesses and their testimony throughout the course of the judicial investigation, losing no opportunity to disparage the character and testimony of physicians so eminent and honored as Drs. Kirkbride and Ray, but, since the jury and commissioner have rendered their conclusions in strict accordance with the testimony presented, the journals alluded to have attacked the verdict unsparingly. It is difficult to imagine what the animus of these attacks on a venerable and beneficent charitable institution can be, but that there is something underneath this malignity can hardly be denied. The hospital is entitled "the mad-house into which Dr. Shulze was kidnapped;" the physicians are called "keepers;" and the course of treatment followed,—the kindly care and the sedulous seclusion from exciting and harmful agencies,—which has resulted in the cure of the patient, is styled a "long incarceration in a mad-house." The object of these attacks is, obviously, to weaken the influence of the Pennsylvania Hospital for the Insane, to excite prejudice against it in the eyes of the community, and, if possible, to lower the reputation of the gentlemen who have devoted a useful lifetime to the amelioration of the condition of the insane within and without its walls.

That such reputations should be in the least clouded by newspaper calumny is not likely; but that prejudice may be aroused in the lower strata of the community against the prompt and thorough treatment of the insane is not impossible, and that the reluctance to intrust relatives to hospital care may result in an increase of the chronic and irremediably insane in our midst, not to speak of the possible violent deaths which may occur from want of proper oversight, is greatly to be feared. It would seem, indeed, as if words could scarcely be too strong to characterize properly such an effort to inflame vulgar prejudice and arouse opposition to institutions which are among the choicest fruit of our modern civilization.

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LEADING ARTICLES.

THE NATURE OF MALARIA.

PROFESSORS KLEBS and Crudelli, who have recently spent some time in the neighborhood of Rome with the intention of investigating the cause of malarial fevers, have recently published an account of their researches.* From an abstract of their report, published in a recent number of the *Medical Times and Gazette*, we learn that the investigators followed a very deliberate plan in the performance of their task. Their communication begins by a full account of the mode of propagation of the malarial fevers, in which they examine the various theories of soil, atmosphere, and locality which have been adduced as explaining the prevalence of these fevers, and show how baseless are many of the ingenious hypotheses which have from time to time been brought forward to account for their occurrence in one place rather than in another.

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* Studien über die Ursache des Wechselfiebers und über die Natur der Malaria.—Archiv f. Exp. Pathol. u. Pharmacol., Bd. xi.

It has been established beyond doubt that in malarial districts three distinct factors are necessary for the production of intermittent fevers,—(1) high temperature of the air; (2) constant moisture of the soil; and (3) free access of air to the moist layers of the ground. These facts, in connection with the history of malarious diseases in those countries where its prevalence has been noted for long periods of time, point rather to a corpuscular nature for the poison than a gaseous, and are in favor of a fungous origin of malaria. During the last twenty years many efforts have been made to find a specific malarial fungus, with more or less success. No investigations thus far made, however, have commanded entire confidence. To establish a substantial theory of a parasitic origin of malarial disease, it is necessary to prove (1) the constant existence of a definite species of organism in the malarial soil, as well as in the air situated above such soil; and (2) that this same species of organism is alone sufficient, without the concurrence of any other disease-generator, to produce true intermittent fever. In experiments upon animals, with this end in view, it is necessary, in order that intermittent fever may be recognized as produced in the animal by the introduction of the organisms, (1) that intermittent feverish attacks should occur; (2) that enlargement of the spleen in the characteristic form should occur, distinguishable from the enlargement of the soft septic spleen; and (3) that there should be no loss of weight,—at least during the first feverish attacks. Another important kind of evidence for the malarial infection of animals is the characteristic black pigment in the spleen, the liver, the marrow of the bones, and the blood.

Professors Klebs and Crudelli first succeeded in producing the symptoms of malarial poisoning in animals by injection of watery extracts from the marshy soil. They then proceeded, by the process called "fractional cultivation," to isolate the active material,—that is, the true generator of the disease, supposed to be a living organism. Lastly, they isolated the organisms by filtration, and, comparing the results obtained in injections of the filtrate from those produced by the residue containing the organisms, they proved that the poison of malaria resides in these. The fungi obtained appeared as small rods of 0.002 to 0.007 millimetre in length, growing into long, twisted threads. The fungus is markedly aërobiotic. If air is excluded, it dies out. The injection of these fungi — true *bacilli malariæ* — into healthy animals always gives rise to symptoms of intermittent fever, with enlargement of the spleen, etc. Later, Dr. Marchiafava, at Rome, was able to demonstrate spores and bacilli in the spleen, the marrow, and the blood of three persons who had died of pernicious fever, showing the same characters as those observed by Klebs and Crudelli. In summarizing the results of their investigations, the authors consider the following facts as proved: 1. That it is possible to reproduce malarial infection in every form in rabbits in which it is known in men. 2. That the malaria produced artificially in animals is generated by organisms existing in the malarial soil at a time when the outbreak of the fever has not yet taken place.

CORRESPONDENCE.

BOSTON LETTER.

Boston, February 19, 1880.

MR. EDITOR,—In a former letter I gave you a sketch of the condition of things in Massachusetts previous to the passage of the bill which disposed of the prehistoric coroner system and provided for the appointment of properly educated medical examiners, whose duties are limited to the examination of the bodies of those who die by violence, suicide, etc., the legal aspects of each case being left to the courts. This system is working harmoniously and satisfactorily.

Upon reading the statute concerning medical examinations and inquests, one easily saw that the operation of the law would be inefficient unless the medical examiner were fully qualified, and, moreover, thoroughly interested in his share of the responsibility. More than this, it was at once observed that the radical change in the system of investigation would lead to confusion, unless the whole body of medical examiners harmonized in a common understanding of the principles which underlie the statute. Certain of the newly-appointed medical examiners, therefore, invited their associates to meet them, for the purpose of organizing a society. The meeting followed, and the Massachusetts Medico-Legal Society came into being. The question as to who among medical men should be received as members of the Society was settled by the decision that those who have been admitted to and still are members of the Massachusetts Medical Society should be considered eligible. This decision insures qualification so far as medical education is concerned, and refers strictly to medical examiners. Other members may be elected from the medical, legal, or scientific professions, but are known as "associate members."

The purposes of the Society are clearly set forth in the constitution, viz., "To elevate the official character of the medical examiner, and assist him in the discharge of his duties; to collect and utilize such facts as have a medico-legal value; and to excite a general interest in the subject of forensic medicine, and promote its successful cultivation." Officers are chosen annually. The expiration, without renewal, of the commission of a medical examiner terminates his *regular* membership. Thereafter he would be known as an associate member. The associate members will always consist, in part, of the Attorney-General of the Commonwealth, the several district attorneys of the State, and the members of the State Board of Health, *during their respective terms of office.* The business of the Society is managed, and its expenses are paid, by the regular members. Associate members are allowed to attend only those meetings to which they are invited, and on those occasions they have the privilege of taking part in all discussions, and may present papers. The admission-fee of regular members is two dollars. They are also subject to whatever *pro rata* assessment may be necessary to meet authorized expenses. Every regular member is obliged to forward to the Corresponding Secretary a full and complete report of each case which receives his official attention. The annual meetings take place on the day and at the place of the yearly meeting of the Massachusetts Medical Society. Thus far, papers by regular and associate members have been read at the anniversary meeting of the State Society. This is an excellent plan,—one which not only furnishes the members of the latter society with medico-legal knowledge, but which will gradually make them familiar with the proper manner of managing a medico-legal case. Such information, it need not be said, will not come amiss in any portion of our country.

The disgraceful system of coroners, then, is not only a thing of the past, but has given place to an organization of educated physicians, the outcome of whose duties will exert an immense and beneficial influence in advancing medico-legal science. Moreover, these men, having seen the necessity of mutual discussion and study of the principles of legal medicine, have formed this extremely valuable Society, whose interests they foster with steadfast and generous enthusiasm. In spite of the very apparent good which the community is deriving and will continue to derive from the results of this great change in medico-legal investigation of violent deaths, it probably is true that we do not yet begin to appreciate its benefits.

Heretofore, those who managed the coroner's jury investigations were, many of them, so densely ignorant of their duties that, in comparison, the grave-digger in Hamlet was a Nestor in medico-legal knowledge. There was dishonesty, bribery, concealment of crime, and robbery of the dead. All this is now historical, and the State is protected by honest, earnest, cultivated men, who, besides, are developing the medico-legal knowledge which Massachusetts sorely needs. Will not your State and every State in the Union follow the wise and beneficial example of ours?

The Medico-Legal Society annually publishes a volume of Transactions, including the papers read at yearly meetings. Let me show their value by naming some of the subjects treated: "The Relation which Chemistry bears to Forensic Medicine;" "The Value of Anatomical Appearances;" "Concerning Coroners and the Theory and Practice of Inquests;" "Cases illustrating the Work and Duties of the Medical Examiner;" "The Evidence of Still-Birth;" "A Medico-Legal Case of Abortion, followed by Conviction of the Accused Abortionist;" "Medical Expert Testimony, what it is and should be;" "Clinical and Anatomical Evidences of Abortion," etc. In the volume for 1879 is an appendix, containing "Suggestions for the Medico-Legal Examination of Dead Bodies" and a letter from the Attorney-General concerning fees of witnesses at autopsies. Not a word need be added as to the great value of papers upon such subjects written by capable men. In view of the good already wrought by the new régime, one involuntarily asks the questions, Why did we wait so long for this excellent system? Is it possible that until the year of grace 1877 we endured the abominable machinations of ignorant coroners? The medical examiner system should be introduced into every State. Following this, a national society of examiners should be formed and annual meetings held. The benefit to the country at large would be incalculable.

To-day another medical battle is being fought in Massachusetts. The prospect is that, foot, horse, and dragoons, the enemy will not only be routed, but driven — *into Pennsylvania*, for example. We are fighting for a law against quacks. They abound and increase among us exceeding abundantly. They smite all our borders. Like unto the frogs of Egypt, they come into our houses and into our bed-chambers, almost upon our beds; into the house of our servants and upon our people. In Egypt the frogs "died out of the houses, out of the villages, and out of the fields. And they gathered them together in heaps, and the land stank." We will dispense with the last clause; otherwise, may it be likewise with Massachusetts quacks.

The parties to this movement are regular, homœopathic, and eclectic physicians, lawyers, and good citizens. It originated in the Social Science Association, which appointed a committee and instructed them to prepare a draft of a proposed law to regulate the practice of medicine in this State. This the committee did. The draft was then laid before leading physicians throughout the Commonwealth, and received their approbation. A committee at the State-House is now engaged in listening to evidence in favor of and against the law.

The proposed law recognizes three classes of practitioners, viz., members of the Massachusetts Medical, Massachusetts Homœopathic Medical, and Massachusetts Eclectic Medical Societies, and none other. It proposes the appointment of a State board of censors, which shall comprise representatives of these three Societies. Applicants for licenses must show a diploma from a recognized regular, homœopathic, or eclectic school, and likewise proper qualifications for practice. They are to be examined on such subjects as the board may deem necessary, *not including therapeutics.*

It is needless to give you even a synopsis of the various sections of the proposed law, for its whole purport is to rid the State of ignorant, dishonest men, who kill and rob the credulous. If a man be educated in *medicine*, he will be licensed. You will observe that no applicant will be examined in *therapeutics*. This feature of the law makes a unit of all public-spirited physicians of the three schools which I have mentioned. They join hands in pushing the bill, and can meet in perfect harmony as censors, for the matter of treatment of disease will not be broached. A candidate who gives evidence of familiarity with the other six branches of medicine will pass the board of censors.

It need not be said, however, that the quacks are fighting the bill tooth and nail. A so-called homœopath has published, in several of our daily journals, a letter, in which he is silly enough to attempt to prove that the medical bill is only an underhanded attempt of members of the Massachusetts Medical Society to drive homœopaths out of the State. The utter weakness of the plea is shown by the character of the proposed law, by the representation given to homœopaths, and by the suppression of therapeutics in the subjects upon which candidates will be examined. Moreover, this letter was answered by another homœopath, who refutes the charge it brings forward, and expresses the opinion that the letter in question was not written by a homœopath, but by one of the quacks who are working anonymously against the law. Very amusing, as well as very grave, developments are being brought before the committee at the State-House. One witness, a stolid German, after relating his experience, ended by saying, "Dose toctors dit not cure me; de quags dit. At bresent de man is in der Shtate brison, and his vife." Liberty-loving citizens clamor for the right to employ any healer they may select, and miraculous cures by blacksmiths, police-officers, etc., are related. But the opposition, bitter as it is, is of very inferior quality, and will accomplish nothing. A majority of the Legislature is already pledged in favor of the bill, and, indeed, there can be no reason for negative votes, for the law does not favor any particular school, but looks wholly to the benefit of the public. Supporters of the law have told the committee almost impossible stories of the fatal results of the ignorant treatment of the sick by all sorts of villains, who gull the credulous.

But there is one feature, in the virulence with which the law is opposed, which is to be greatly regretted. It must be confessed that some of the laity have become prejudiced against our school through the stupidity and blundering ignorance of men who have graduated from, and *are still being turned out by*, medical schools of the second class. These men show the diploma of schools whose names have been good, but such diplomas are no longer and never have been guarantees of the proper qualification of the holder. You and I both know men who have been graduated at schools which stand high in the list of medical institutions, and yet who are absolutely ignorant of medicine. These men should be at the bench of the carpenter, before the mast, behind the plough, but they have every right but a divine right to take human life in their hands, when in truth they should not be trusted with the care of a sick cat. Such men not only exist, but their number is being increased. They hurt us; they misrepresent us; they bring reproach upon us. A *little* knowledge, especially of medicine, is so dangerous that one might just as well employ downright quacks, clairvoyants, spiritual healers, or any other of the devilish crowd of charlatans, as these ignorant graduates, whose dose of arsenious acid is "five grains;" who say "the heart is lined by a mucous membrane," that a throat is in "a cathartic condition," that the patient is "anæmiac," etc., etc. The responsibility for their existence as regular and, of course, professedly educated practitioners, lies with the men who sign their diplomas, not having the grit to risk a possible lessening of the amount in the pool by refusing their signatures. It will not do to have it said that they make the final examination an honest *sine quâ non* for a diploma by requiring intelligent answers. The deplorable effect would be a diminution in the size of their classes. That would never do. The public must take care of itself.

At the last meeting of the Boston branch of the State Medical Society was a sprinkling of good and strong men who, from various motives, opposed the medical bill. But their number is so small, not only here, but throughout the State, that it will be seen that the bill has found universal acceptance and favor among all well-minded citizens; and those physicians who now object to it undoubtedly will reconsider their position and favor it. They do not oppose it as a whole, but merely do not agree with certain sections of the law. The general feeling is: push it through; get in an opening wedge, and modify the law afterwards. There is no time to be lost, for quackery is daily on the increase.

In a future letter I hope to tell you that the law is in force.

Another topic of interest is the question of the admission of women to the Massachusetts Medical Society. At the October (1879) meeting of the Councillors of the Society it was voted that women be admitted for examination. A legal point not yet settled, but which escaped the notice of the Council at that time, led the censors to ask for further instruction, and made it apparent that the by-laws required modification before women could be admitted. This necessitates concurrence of the whole Society. The censors presented a protest at the February meeting of the Council, and the result was a vote that the October decision be reconsidered. So that the matter remains where it was last summer.

H. O.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, January 14, 1880, Dr. Henry H. Smith, President of the Society, in the chair. Professor James Tyson presented a paper on "Casts of the Uriniferous Tubules —their Nature and Clinical Significance." (See page 289.)

DISCUSSION ON RENAL TUBE CASTS.

Dr. Frank Woodbury said he hoped that Dr. Tyson's paper would not be allowed to pass without discussion, since many members of the Society could doubtless contribute much valuable information upon the interesting and important points presented. Without attempting formally to discuss the subject, but simply with a view of opening the debate upon it, he desired to offer a few thoughts suggested by the reading of the paper.

In regard to the intimate structure of casts, the question had been raised, and the opinion of various authorities quoted at some length, as to whether hyaline casts are of fibrin formation or not. In the speaker's opinion this was a subordinate and comparatively unimportant question from a clinical point of view. Inasmuch as the composition of fibrin itself is still under dispute, it would first be necessary to establish the authenticity of physiological fibrin before deciding whether or not a pathological product is to be considered as fibrinous. The protein, or albuminoid, compounds are numberless, and are far from being fully known, even in health. What changes in their molecular or chemical characters may occur in diseased states opens a wide field for conjecture. Fibrin is a derivative or an allotropic form of albumen; so is mucin. Whether or not in disease there might for instance be an intermediate compound between fibrin and mucin, differing from either and yet possessing many of the characters of both, has not been decided; we are safe, however, in agreeing that the substance forming these hyaline casts is an "albuminous coagulable substance poured out on the inner surface of the tubules" whose shape it retains. Upon this, as a foundation or matrix, we may have superadded blood-cells, inflammatory granulation material, and renal epithelium in various stages of destruction; or the exudation substance may remain transparent and clear, forming simply hyaline or so-called waxy casts.

As regards the causation of these pathological elements, they may be divided roughly into (1) accidental, (2) inflammatory, and (3) degenerative. It is taught by some distinguished observers that casts may occasionally appear, even in normal urine, without disease of the kidneys; and it is asserted upon good authority* that in obstructive jaundice hyaline casts sometimes appear in the urine, probably as the result of irritation,—the kidneys being normal and no albuminuria being detected. In the inflammatory form we have, generally, well-recognized processes going on in the kidney, which are accompanied by epithelial desquamation; subsequently blood may exude and enter into the tube cast, or this exudation may be primary and due to traumatism, or to intense congestion from the presence of irritating substances in the circulating fluid.

The process going on in the kidney epithelium in acute inflammation is probably analogous to that which takes place in superficial dermatitis. In the case of facial erysipelas which on the fourth day is attended by albuminuria and shortly afterwards by the appearance of renal epithelial cells and tube casts, it may be assumed that on the visible portion of the surface nature is performing a pathological experiment, and that the changes going on in the lining membrane of the kidney tubules are the same as those immediately under the eye of the clinical observer; there is first a determination of blood, followed soon by discoloration and swelling; secondly by intercellular effusion; and finally by the complete separation of the old cells, which desquamate in sheets, exposing the new epithelium beneath. It is not necessary to suppose that the portion cast off is in any proper sense a secretion of the ordinary cells, but they are simply thrown off and new cells take their place. As already suggested, however, the mucous secretion may be changed by disease so that an abnormal amount of albumen may be thrown out in the tubules and there form casts or plugs similar to those constantly occurring in catarrhal conditions of the upper air-passages. The microscopic characters of the urine in those chronic renal diseases accompanied by the exfoliation of imperfectly formed or prematurely degenerated epithelial cells, such as in the chronic interstitial nephritis, or the amyloid, and the fatty kidney, have been already dwelt upon by the lecturer.

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* Prof. Nothnägel, Deutsches Archiv für Klinische Medicin, October, 1873.

As far as the point of formation is concerned, it would appear that these casts might be formed in any portion of the tubuli uriniferi where epithelium exists, or where an exudation may take place after the epithelial cells have been destroyed. There would be, in the speaker's mind, no reason for denying the supposition that the casts of large calibre might be formed in the collecting-tubes, while smaller ones might be moulded in the loops of Henle or in the convolutions of the cortical structure. It is probable that many epithelial casts formed in the convoluted portions undergo disintegration in their long and tortuous passage, and appear simply as fragments, granular matter, or individual cells in the urine. As regards the time it requires for the casts to be discharged after formation, it is seen that in erysipelas they appear almost coincidently with the desquamation upon the face and the albuminuria; in other words, in acute desquamative nephritis some casts are cast off as soon as formed. Possibly those casts that appear first (granular exudative casts of large and medium size) owe their origin to the collecting portion of the tubes. The well-known difference in the character of the epithelium lining the ascending arm of the loop of Henle from that of the descending arm, and the very small calibre of this loop, also appear to favor the opinion that the principal site for the formation of perfect casts would be in the intercalated tubule beyond this point, rather than in the convoluted portion preceding it. The opinion generally held is that hyaline casts of small size are formed in nearly normal tubules, while those of large size come from ducts which have been previously denuded of their epithelial lining.

In addition to the forms of albuminuria mentioned by the lecturer, in which no casts are found, the speaker referred to the transitory albuminuria of adolescents, in which he had repeatedly searched for casts without success, the albumen subsequently entirely disappearing from the urine.

The conclusions of the lecturer in regard to the clinical significance of the different forms of casts conveyed information both valuable and practical; but of course it was understood that in the diagnosis and prognosis the size and number of the casts are also taken into consideration, also the daily quantity, and chemical characters, of the urine excreted, as well as the other rational and physical characters of the disorder.

Dr. Horace Y. Evans expressed his satisfaction with the views presented by the lecturer, and said that he had met casts so frequently in the urine, particularly oily casts, which did not appear to be accompanied by the grave symptoms which we have been led by the text-books to expect in these patients, that he had finally concluded that they were not of much consequence. He would place more reliance upon the other clinical features of the disease, in forming a prognosis, than simply the appearance of the casts.

Dr. Tyson, in closing the debate, said that he did not believe that casts are formed in any one way, but there is no doubt that they are formed of albuminous or protein substance; many are made up entirely of this material. That some are made up of desquamating epithelial cells is equally certain, and that others are formed by the fusion of cells is also probably as true. On the other hand, he did not think that any reason exists for believing that the mere coagulation of albumen ever forms casts, or that they are a product of the secretion of the cells.

As regards the albuminous base of casts, when present, it is formed by the coagulation of material exuded from the blood. Plasma is thrown out and assumes the shape of the cavity, thus forming a plug, which, afterwards contracting, is extruded as a cast, and in a large number of cases the cylinders are made up of this substance alone.

In the diagnosis of renal disease, not only the casts, but the quantity of the urine daily excreted, and other clinical features, must be taken into consideration. He, however, believed that in many cases of Bright's disease the diagnosis can be made from an examination of the urine alone.

As to the significance of oil-casts in the urine, he differed totally from the last speaker. He had never found them in urine that was free from albumen. He considered oily casts as of considerable import, and looked upon them as always indicating structural change in the kidneys.

EXHIBITION OF NEW SURFACE THERMOMETERS, BY DR. HENRY LEFFMANN; WITH REMARKS UPON CEREBRAL THERMOMETRY, BY DR. CHAS. K. MILLS.

In connection with certain forms of surface thermometers exhibited this evening, we offer a few remarks in regard to the construction and use of such instruments. Surface thermometry as a systematic method of observation is largely due to the elder Seguin, who, in 1867, urged its importance (*Medical Thermometry and Human Temperature*, by E. Seguin, M.D. William Wood & Co., New York, 1876). This work contains a voluminous bibliography. In the Seguin thermometer the base of the bulb is comparatively broad and flat, and the thin glass surface forms an elastic diaphragm, which, by yielding to pressure, introduces an error. In two thermometers examined by us recently the error from this cause amounted to 0.5° and 1° respectively. Different instruments vary in this respect. Dr. L. C. Gray, in his experiments, used Seguin thermometers constructed especially to avoid this error (*Cerebral Thermometry, New York Medical Journal*, August, 1878). In a discussion at the Philadelphia Pathological Society (*New York Medical Record*, December 14, 1878), Dr. Mills explained a modification of the Seguin thermometer, devised by Dr. Leffmann and himself. Two corks were placed in a common test-tube, one at the middle and the other on a level with the mouth; and through these the stem of the thermometer was passed, the bulb being brought flush with the outer surface of the lower cork. In this way the effects of currents of air, of handling, and of pressure were in great part avoided.

We exhibit this evening several Mattson's *Surface Thermometers*, obtained from J. H. Gemrig & Sons, Philadelphia. They are reliable in most respects. The bulb consists of a spiral tube, about 1 mm. ($\frac{1}{25}$ inch) in diameter and 5 cm. (2 inches) long, making nearly three turns. The stems in different instruments vary in length from 13 to 15 cm. (5 to 6 inches). The mercurial column is very fine, probably about 0.33 mm. ($\frac{1}{75}$ inch). The scale runs from 90° to 110°. The bulb and lower fifth of the stem are protected by a cylindrical casing of hard rubber, open below. The stem passes through a rubber diaphragm within the casing. The upper part of the case unscrews. The instruments are not appreciably influenced by pressure. This is due to the spiral bulb, which presents a firm cylindrical and also extended surface. The encasing carries out the above-mentioned modification by tubes and corks. It is necessary to enclose more than the bulb. We would suggest a cover of felt, closely fitting the bulb and covering only a small portion of the stem. Experiments made with covered and uncovered bulbs have shown a difference of nearly a degree in the record.

It is difficult to make a reliable surface thermometer. We have examined carefully each of the instruments exhibited this evening, and find some defects and differences. Observations in surface thermometry may be valuable, although the instruments are not absolutely perfect. Each instrument should be carefully examined and compared with a standard. By correcting for known errors approximate accuracy at least can be obtained. A scale from 70° to 120° F. is preferable to the one used here,—90° to 110° F. Fahrenheit degrees are most suitable for all medical thermometers, because, being smaller in value than Centigrade, fractions may be disregarded with less error.

It may not be amiss to speak briefly of two other methods of measuring temperature, namely, by metallic thermometers and thermo-electric batteries. The metallic thermometer is generally a bar of two or more metals, differing widely in expansibility. Changes of temperature produce a bending of the bar, which, by operating a lever and pointer, registers the degrees of heat. Such instruments may be made compact, delicate, and self-registering, and can be adapted for medical purposes. Thermo-electric batteries, as generally made, are very sensitive, but require a galvanometer and delicacy of adjustment difficult to attain in ordinary clinical observations. They have been used in several forms and under various names in medical investigations. By employing in the instruments metals differing but slightly in the thermo-electric scale, adjustments could be more easily made and too minute changes of temperature would not be recorded.

Our remarks upon the use of surface thermometers in the investigation of disease will be very brief. We simply desire to call the attention of the Society to a few of the more important results which have been accomplished.

Cerebral thermometry only dates back to 1877, when Broca published some observations on the temperature of the surface of the head (*Lancet*, October 20, 1877, and *Progrès Médical*, 1877). Dr. Landon Carter Gray's paper on cerebral thermometry, noted above, attracted general attention, both at home and abroad. Both Broca and Gray made many careful observations on the temperature of various regions of the head in health. Gray gives one case of brain tumor in which surface thermometry was of assistance in locating the growth.

Dr. Mills (*American Journal of the Medical Sciences*, October, 1878) published some observations in surface thermometry in a case of vaso-motor and trophic affection of the fingers. He has also published two series of observations in cases of tumor of the brain

(*Philadelphia Medical Times*, January 18, 1879, and *New York Medical Record*, August, 1879).

Drs. Maragliano and Sepilli, of Reggio nell' Emilia, Italy, have made investigations into the cerebral temperature of the sane and insane. Their essay was read before the Medical Congress at Pisa, September 28, 1878. We have received from Dr. L. C. Gray an abstract of their observations, reprinted from the *Archives of Medicine*.

Their conclusions are so interesting, and so little known to the profession generally, that we think it will be worth while to present some of them in condensed form. 1. It is exceptional to find the average temperature of the head higher than normal in simple lypemania and dementia. 2. The highest temperature is found in furious mania, 36.9° C. (98.4° F.); then, in decreasing ratio, in lypemania agitata, 36.8° (98.2° F.); in progressive paralysis, 36.6° (97.9° F.); dementia agitata, 36.5° (97.7° F.); imbecility and idiocy, 36.3° (97.3° F.); simple mania, 36.3° (97.3° F.); simple lypemania, 36.2° (97.1° F.); simple dementia, 36.0° (96.8° F.). 3. In all mental disease the occipital lobes are of lower temperatures than the others; the temperature of the frontal lobes, which equals that of the parietal in dementia agitata, in idiocy, and imbecility, is higher in mania, in simple lypemania, and simple dementia; whereas in progressive paralysis and lypemania agitata the temperature of the parietal lobes is higher than that of the frontal. 4. In all the principal groups of mental disease the averages of the two sides of the head are almost equal, with the exception of congenital forms, in which the various regions of the right side show a higher figure than the left.

These authors found the cerebral temperature of the sane to be higher than did Broca and Gray, but explain this disparity by the fact that they did their work in June, July, and August, whilst Broca and Gray performed theirs in the winter and early spring. Professor Maragliano ascertained that thermometers placed on the skull were accurate indices of the temperature of the contents of the skull. He filled a skull with water at different temperatures, leaving the integument and hair in place, and he ascertained that the thermometers placed externally followed faithfully the oscillations of temperature of the water within as denoted by thermometers placed therein. He also found that during sleep induced by chloral there is a constant decrease of temperature. In three cases of embolism of the brain, too, he found the temperature decreased. Maragliano and Sepilli give tables which show in detail the above and other facts.

Surface thermometers have been used in surgery for the determination of the condition of tumors, abscesses, etc. Professor Peter, of France, has made several valuable contributions to the Paris Academy of Medicine with reference to morbid local temperatures in thoracic and abdominal affections; and Flint, of New York, and Da Costa, of Philadelphia, are doing important work in the same field.

DISCUSSION UPON LOCAL TEMPERATURE IN DISEASE.

Dr. M. O'Hara had been interested in the subject, especially in its application to the detection of early tubercular disease. In regard to the diagnosis of intracranial lesions of an inflammatory or irritative character, he pointed out the fact that the local temperatures upon the scalp are only the index of the radiated heat, and not necessarily a measure of the heat of the brain itself. In making such observations it would be proper to record in each case also the temperature of the surface, as well as the temperature of the surrounding air. Different parts of the body may radiate the heat to a greater or less degree than normal, and thus affect any local temperatures of the cranium; every report should be accompanied by notes of the general heat, so that when a frontal temperature is given, we would know its relation to other points on the surface. He had made a series of observations recently, at the St. Mary's Hospital, upon cases of chest troubles particularly, the notes of which were carefully made by the resident physicians of the hospital, Dr. Diehl and Dr. Smith, to whom he wished to return thanks. He invited attention to the following preliminary local temperature observations.

Chronic Pleuritic Effusion on Right Side.—Temperature in right axilla, by clinical thermometer, 100°; in left axilla, 100°. Over effusion, by surface thermometer, 95.5°; over side opposite to effusion, 96.8°.

Phthisis—Large Cavity at Apex of Right Lung and Deposit in Apex of Left Lung.—Temperature in right axilla, by clinical thermometer, 102.5°; in left axilla, 102.5°. Over cavity in right apex, by surface thermometer, 100.5°; over left apex, 100°.

Typhoid Fever in Third Week.—Temperature in right axilla, by clinical thermometer, 104.3°; in left axilla, 104.7°. Over right iliac fossa, by surface thermometer, 101.6°; over left iliac fossa, 105.5°; over heart, 100°; over frontal region of head, 100.2°.

Syphilitic Tumor of Brain.—Temperature in right axilla, by clinical thermometer, 99.5°; in left axilla, 99.9°. In right frontal region of head, by surface thermometer, 96.5°; in left frontal region of head, 97.5°.

Traumatic Erysipelas of Face due to Necrosis of Lower Jaw, which commenced on Right Side and spread to Left Side of Face, where it was now disappearing.—Temperature in left axilla, by clinical thermometer, 99.5°; in right axilla, 100.3°. On right side of face, near seat of lesion, by surface thermometer, 94°; on left side of face, corresponding to seat of lesion on right side, 95.6°.

Dr. Charles B. Nancrede, in commenting upon the stations selected by Dr. Mills upon the surface of the skull, said that if the diagram were correct he thought that the posterior station is very close to, if not exactly over, the confluence of the sinuses, while the middle one is nearly over the middle meningeal artery. One and one-half inches behind the internal angular process of the frontal bone, on a level with the upper margin of the orbit, brings us directly over the middle meningeal artery, about the site of Dr. Mills's lateral station. In the vast majority of cases the right lateral sinus is larger than the left, and might produce a change of a fraction of a degree in this station. We should also take into consideration the varying thickness of bone in different parts of the skull, and in different skulls, as a thin bone would transmit heat more readily. In children the points of greatest thickness are different from adults; the parietal protuberances are the points of ossification, and are the thickest portions of the bone; but in the adult these are among the thinnest.

Dr. Mills agreed with Dr. O'Hara as to the propriety of noting, in cerebral thermometry, the general temperature of the body, in the mouth, axillæ, and rectum, as well as that of the surrounding air of the room. Although he had usually recorded the axillary temperatures, he did not think that there had been shown to be any uniform agreement between the temperatures taken in the axilla and those of the other portions of the body. The published operations of Broca, Gull, Brown-Séquard, and the speaker had shown that there was, however, some positive relation between the temperatures in these stations upon the skull and diseased local processes in the brain beneath.

Dr. W. R. D. Blackwood read the report of a case illustrating the necessity of accurate diagnosis. (See page 295.)

REVIEWS AND BOOK NOTICES.

OUTLINES OF THE PRACTICE OF MEDICINE, WITH SPECIAL REFERENCE TO THE PROGRESS AND TREATMENT OF DISEASE. WITH APPROPRIATE FORMULÆ AND ILLUSTRATIONS. By SAMUEL FENWICK, M.D., Lecturer on the Principles and Practice of Medicine at the London Hospital, etc. Philadelphia, Lindsay & Blakiston, 1880.

The great and lasting popularity of Dr. Fenwick's excellent little Student's Manual of Medical Diagnosis will cause those members of the profession who are directly engaged in teaching the medical branches to look with warm interest upon the appearance of this new book from the same pen. In the note of dedication to Dr. Marston, the author makes known that his book is an attempt to remedy a defect in medical education, namely, "the tendency to adopt physical diagnosis as the basis for treatment, to the disparagement of those indications furnished by symptoms, which are of so much importance in leading to a correct method of rational treatment." The arrangement is good, the style clear, crisp, concise, and the treatment brought, in broad general terms, well up to date. It is a book that may be of service to students well grounded in pathology, in preparing for examination or in their first bedside labors; to those who have neglected or indifferently attended to their studies in general and special pathology it will be like a Chinese puzzle, of which the most important part seems hopelessly wanting.

Were I to express my personal feeling about the subdivisions of books for students, I would say that works upon every department of pathology, including diagnosis, may be complete without reference to treatment; and that works upon therapeutics, which have to do with drugs and their actions essentially, require but little of pathology; but that works on medicine, devoted to the consideration of diseases without pathology, and more particularly of treatment without other than passing reference to the actions of drugs or the morbid processes underlying the symptoms, are not of use to the student of average intelligence.

J. C. W.

STUDENT'S POCKET MEDICAL LEXICON; WITH AN APPENDIX CONTAINING A LIST OF POISONS AND THEIR ANTIDOTES, ETC. By ELIAS LONGLEY. Philadelphia, Lindsay & Blakiston, 1879, 16mo, pp. 303.

Mr. Longley's little work is intended chiefly for medical students and practitioners who "have not been favored with a liberal education." In order to facilitate the acquirement of a correct pronunciation a phonetic alphabet of twenty letters has been prefixed. Each of these letters, which bear a grotesque resemblance to those of old Gothic manuscript, has a certain sound, and the sound-meaning of these characters once learned, the key to the pronunciation followed throughout the lexicon is mastered. Whether it is worth all this trouble seems to us questionable. The system of pronunciation followed is the Bostonese or "Harvard," which, inasmuch as it *is* a system, is better than the chaos which usually prevails in medical circles. Occasionally the author makes a bad slip, as where in "eczema" he places the accent on the second syllable instead of the first, a colloquial blunder not infrequent among older physicians, but unauthorized by common usage or by the authority of Webster and Dunglison.

ARCHIVES OF OTOLOGY. Edited in English and German by H. KNAPP, M.D., and PROF. S. MOOS. December, 1879.

We can afford to take no little pride in this number of this valuable journal,—the most practical and, at the same time, the most scholarly papers therein being of American authorship. Attention is particularly invited to the article by Dr. Swan M. Burnett, on Objective Aural Sounds produced by Voluntary Contraction of the Tubal Muscles, and the one on the Audiphone and Dentaphone, by Dr. Charles S. Turnbull. Dr. Burnett holds, in opposition to the views of other writers, that these sounds are of mucous origin, and are caused by a separation of the moist surfaces of the mouth of the Eustachian tubes after they have been brought together by the contraction of the levator palati. These muscles are held to close more or less completely the pharyngeal orifice, — an opinion which appears to be rapidly gaining ground among the best observers. Dr. Turnbull does good work in acquainting the profession with instruments which are now the popular rage. He inclines to the conclusion that both inventions have been over-estimated, and quotes authority from teachers of deaf-mutes in support of his position.

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GLEANINGS FROM EXCHANGES.

THE EVIL CONSEQUENCES OF NEGLECTED COLD IN THE HEAD was the title of a paper read by Dr. D. B. St. John Roosa before the State Medical Society of New York (*N. Y. Med. Record*, February 14). It will be found that the most frequent origin of chronic diseases of the lachrymal passages, of the conjunctiva, and of the middle ear, is in a neglected "cold in the head." It is generally conceded that no person in perfect health, except under extraordinary circumstances, takes cold; and yet the majority of mankind have, at some time, suffered from cold in the head. The popular idea that a cold in the head is an insignificant affair is founded on the fact that most of the people recover to such an extent that they are able to go about afterwards and engage in their ordinary avocations without special notice, at the time, of the consequences of the disease which may even then be settled upon them. He believed that very many of the maladies which prevent men and women from reaching the allotted period of threescore and ten have their origin in these colds, and that many serious affections which act as an impediment to the success of their victim are dated from a cold in the head. He then gave a biographical sketch of a child, perhaps feeble when born, or, it may be, in an apparent condition of strength, who became the subject of hypertrophy of the tonsils, swollen naso-pharyngeal mucous membrane, watery eyes, and, worst of all, impaired hearing, perhaps so much impaired that he is not able to hear enough to perform properly the ordinary duties of life. He then described the suffering incident to an acute attack of cold in the head, and spoke of the impossibility of having repeated attacks without producing serious local changes,—not only local changes, but a permanent impairment of general nutrition. To correct all this, special attention must be paid to *individual* hygiene, and if the evil consequences of neglected cold in the head were to be abolished, the abolition must come through a public sentiment properly educated upon this as upon all other sanitary questions. The family practitioner must warn the people everywhere, as opportunity is offered, of the danger in this direction, and of the means by which it is to be avoided.

HINDERANCE TO THE RESPIRATION BY DISEASE IN THE NOSE.—Dr. D. H. Goodwillie, in a paper read before the Canada Medical Association, refers to the deviation of the cartilaginous septum and hypertrophy of the soft parts as the chief causes of nasal obstruction. For the cure of the former condition he showed a set of excising nasal forceps. On one blade of these forceps is a circular, ring-shaped knife, and this cuts against the flat surface of the other blade. Dr. Goodwillie simply applies the forceps and cuts out the deviating part. He reports a number of successful cases.—*Canada Medical Record*, December, 1879.

POISONING BY CAMPHORATED OIL.—Dr. H. B. Hewetson reports (*Lancet*, January 17) the case of a lady who took an ounce of "camphorated oil" in mistake for castor oil. After taking the dose she went to bed and fell asleep, but waked an hour or two later in violent delirium, with vomiting, complaining at intervals of feeling sick and cold and that her cheeks tingled very much. The breathing was labored; pulse 104, firm and good. The extremities did not feel cold to the touch. Hot water and mustard were administered, which made her vomit, and an hour or two later she regained consciousness and gradually recovered.

EFFECTS OF THE CONTINUED USE OF CHLORAL.—The committee of the Clinical Society appointed to ascertain what deleterious effects follow the prolonged and continued use of chloral have recently reported (*Lancet*, January 17). One thousand circulars containing inquiries were sent, to seventy-nine of which answers were received. Twenty-nine answers state that after extensive experience of chloral in long-continued doses, no ill effects have been observed. Ten of these correspondents enjoy the special opportunities for observation afforded by asylum practice. Fourteen answers record cases in which nervous debility, mental enfeeblement, and convulsive seizures appeared to follow the use of chloral, Dr. Maudsley, Dr. Clouston, and Dr. Lindsay expressing themselves as strongly opposed to its employment in insanity. Two answers note some cardiac enfeeblement. Six replies mention digestive disturbance as occasionally following the administration of chloral. Nine correspondents give details of cases in which they observed itching of the skin, papular eruption, with deep flushing of the face and head, following the taking of stimulants. Two replies indicate the possibility of urinary irritation being produced by chloral. Inquiries addressed to leading apothecaries failed to show any abuse of the liberty of purchasing the drug at will enjoyed by the people in general.

TREATMENT OF DISEASES OF THE TONSILS.—Dr. J. H. Douglas (*New York Medical Journal*, January, 1880) says that a point in the treatment is to reach the posterior arch: to effect this he finds that the nozzle of a syringe can be carried back far enough to wash out any concretions of mucus and apply appropriate remedies. He is not in favor of removal of the tonsils. Dr. Beverley Robinson is accustomed to apply to the crypts of the enlarged tonsil a probe covered with nitrate of silver. Dr. Lincoln applies a solution of one part carbolic acid and eight parts compound tincture of iodine.

MISCELLANY.

SIMS'S SPECULUM ALWAYS AT HAND.—The index and middle fingers of the right hand may be used as a perineal retractor in place of the ordinary Sims's speculum. They may be introduced with the patient in Sims's latero-prone position, the operator standing back of the patient, on the side of the table, in exactly the position of the assistant who holds the speculum in the ordinary way. In this manner the cervix and vagina may be exposed almost as well as by the speculum. This method of exposing the parts may be of great use when a speculum is needed and not accessible,—in the application, for instance, of the tampon in sudden hemorrhage, or in consultations at a distance, when, for reasons not anticipated, it becomes necessary to examine the pelvic organs.—*Chicago Medical Gazette.*

THE *Annales de Dermatologie et Syphiligraphie*, which has been published as a bi-monthly for the past ten years, has just begun a new series as a quarterly. Dr. Ernest Besnier, the present editor-in-chief, is known as one of the most active and able among French dermatologists, and the first (January) number shows signs of the infusion of fresh blood in its fulness and interest. We give in another place an abstract of a paper by Fournier on secondary syphilitic epilepsy, published in the current number of the *Annales.*

WE not long since noticed at some length the first volume of the American edition of "Reynolds's System of Medicine," edited by Dr. Henry Hartshorne. The second volume is already upon our table, so that we doubt not that the third will soon follow.

DR. J. A. LOCKHART CLARKE, well known for his investigations into the pathology of the nervous system, died a few weeks ago, in the sixty-fourth year of his age.

PROF. BROCA, the distinguished anthropologist, has been made a life senator of France.

NOTES AND QUERIES.

EDITOR *Medical Times:*

DEAR SIR,—In order that the "errors" mentioned in the letter of Dr. Landolt, in your issue of January 31, may be referred to the proper source, I beg leave to state that my translation of his book was made (at his special request) from his second Paris edition, and that he thoroughly revised and corrected the manuscript before it was sent to the printer. The book was set up in strict accordance with this corrected "copy." He, therefore, and not the translator or publisher, is responsible for any *errata* he may see fit to print in addition to those to be found in the book as published.

Yours truly,
SWAN M. BURNETT.

1215 I STREET, WASHINGTON, February 20, 1880.

DEXTRO-QUININE IN PERIODICAL HEMICRANIA.

I WAS called to see a little son of Mr. Charles Lankford, of this city, several months ago, who complained of headache in the right side of his head and through the right eye. His sight was imperfect while suffering from the pain, and there was decided periodicity about the attacks, being much worse every other day; his nose would bleed very often when he was troubled with the headache. From the history of the case I regarded this as a neuralgic hemicrania of malarial origin. I accordingly prescribed quinine, iron, and hyoscyamus; I found no improvement, but an increase of the head trouble, with more hemorrhage from the nose. I then put him upon quinine alone; his head continued to be congested, and nose would bleed frequently. I then discontinued the quinine and put him upon ergot and bromide potassium. This seemed to check the hemorrhage to some extent, but the headache and imperfect vision remained. I then discarded all remedies and put him upon three-grain doses of dextro-quinine (K. & M.), three times a day. I am pleased to report that after the second day's use of dextro-quinine the hemicrania was entirely relieved, nor has it since returned; the eyesight became perfect, the bleeding from the nose has occurred but once since.

This boy could not take quinine without producing congestion and, necessarily, hemorrhage. Dextro-quinine obviated the difficulty and cured my patient.

C. A. BRYCE, M.D.,
Editor of the *Southern Clinic*, Richmond, Va.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM FEBRUARY 22 TO MARCH 6, 1880.

COOPER, GEORGE E., LIEUTENANT-COLONEL AND ASSISTANT MEDICAL PURVEYOR.—To be relieved temporarily in the charge of the Medical Purveying Depot in San Francisco, Cal., by Captain H. Johnson, Medical Storekeeper. S. O. 48, A. G. O., March 3, 1880.

HEGER, A., MAJOR AND SURGEON.—Having reported in compliance with orders from the A. G. O., is assigned to temporary duty at Department Headquarters. S. O. 42, Department of Texas, February 26, 1880.

BYRNE, C. C., MAJOR AND SURGEON.—Granted leave of absence for twenty days. S. O. 2, Department of Dakota, February 18, 1880.

MUNN, C. E., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month. S. O. 44, Department of the Missouri, February 27, 1880.

LORING, L. Y., CAPTAIN AND ASSISTANT-SURGEON.—When relieved by Assistant-Surgeon D. M. Appel, to proceed to Fort Dodge, Kansas, and report for duty at that post. S. O. 39, Department of the Missouri, February 20, 1880.

BROWN, P. R., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the President of the Medical Examining Board for examination for promotion, and, on completion of the examination, to the Commanding General, Department of the East, for assignment to duty. S. O. 47, A. G. O., March 2, 1880.

FINLEY, J. A., CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the President of the Medical Examining Board, in session in New York City, for examination for promotion, and, upon completion of the examination, to the Commanding General, Department of the East, for assignment to duty. S. O. 47, c. s., A. G. O.

APPEL, D. M., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Supply, Indian Territory, relieving Assistant-Surgeon Loring. S. O. 39, c. s., Department of the Missouri.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MARCH 27, 1880.

ORIGINAL COMMUNICATIONS.

KIDNEYS, URETERS, BLADDER, AND CALCULI FROM A CASE OF IMPACTED CALCULUS IN A CHILD TWICE SUCCESSFULLY LITHOTOMIZED—DEATH FROM EXHAUSTION.

Read before the Pathological Society of Philadelphia, Thursday Evening, January 22, 1880,

BY JAMES TYSON, M.D.,

Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania, one of the Visiting Physicians to the Philadelphia Hospital, etc.

THE specimens were removed from a lad 6 years and 4 months old. On April 21, 1877, when 3 years and 10 months old, he was cut for stone by Professor D. Hayes Agnew, who removed the phosphatic calculus now exhibited to the Society. It was oval, 3.5 cm. long by 2.2 cm. in its longest conjugate diameter, white, smooth on its surface; on section, also white, loose in the texture of its central portion, and without a nucleus. It was of the same composition throughout. The cut made by the operation was very slow in healing, the latter not being completed until October 1. At least two years before the operation—that is, when less than two years old—he began to complain of bladder symptoms; previous to this he had been delicate. He came under my care about May 1, 1878, one year after the operation for stone. He was then suffering with the symptoms of cystitis, such as are present with a calculus in the bladder, but usually subside soon after the removal of the stone. There was frequent micturition, a small amount of pus, and a very small degree of albuminuria, while the urine was either alkaline when passed or became so very soon afterwards. He was subject, however, in addition, to paroxysms of extreme pain, which was confined almost exclusively to the region of the navel. The attacks occurred about once a week, and succeeded upon days on which he felt unusually well, played a good deal, and tired himself thereby; they lasted until paregoric sufficient to relieve them had been given. He was very pale, anæmic, and appeared a very delicate child.

I put him on benzoic acid, which was to be given until the urine was distinctly acid, and at the end of two weeks he was greatly better. The paroxysms were less frequent; there was less pus in the urine. To the benzoic acid treatment was added sandal-wood oil, and the two were continued, more or less constantly, either together or alternately, as the condition of the urine and other symptoms suggested, throughout the entire summer. This was spent at the seaside. Iron and quinine were also given as tonics when required. It was considered that during this time there was a gradual abatement of his severer symptoms.

About September 10 he had a decided return of his symptoms, this time accompanied with great pain over the bladder, and frequent micturition, during which he seized his penis in his hands; he passed water from three to six times in a night. His general health I thought at this time greatly improved. The urine was very pale, almost colorless, acid, specific gravity 1003, and contained a few leucocytes and a small quantity of albumen. By the middle of October he was again relieved of the painful symptoms, the specific gravity of the urine increased to 1007, but the albumen had increased decidedly to half the bulk of urine tested. No tube-casts could be found, nor were any ever found in the entire course of the sickness,—at least, while he was under my observation.

By the middle of January, 1879, the albumen had again become very small in quantity, there was a scanty sediment of leucocytes, and the urine had attained a specific gravity of 1016,—the highest it ever was while he was under my care. The special treatment during this time was sandal-wood oil, directed to the cystitis, and benzoic acid, to influence the reaction of the urine, as required.

On February 3, 1879, he had a hemorrhage from the bladder, accompanied by great pain. It was, however, at a single act of micturition, and what I examined by the microscope, eight hours after this, contained no blood-corpuscles, but one-half its bulk of albumen. The hemorrhage did not recur.

February 12, Professor Agnew sounded for stone successfully. On March 11 he operated, and after some difficulty removed the second stone exhibited. This was much smaller than the first, being also oval, 2 cm. long by .6 cm. wide. More than half the external surface was white, the remainder brown, and projecting from the former were a number of spicules, by which it was supposed it was imbedded in corresponding depressions in the bladder; whence the difficulty in extracting it. On section, the external concentric laminæ were white, but in the centre was a brown, oval nucleus, 1 cm. long and .5 cm. wide. Portions of this nucleus almost totally disappeared on incineration, but the residue responded to the murexid test. It therefore contained some uric acid.

He was kept in bed six weeks, until April 30, when he was allowed to get up, although the wound was not quite healed. Until April 15 there was a good deal of pus and some blood in the urine, but upon that date we returned to the treatment by sandal-wood oil, after which they rapidly diminished. He had some pain on passing water, which continued until April 15, when this too disappeared. Immediately after getting up, the urine dribbled through the opening in considerable amount, but this gradually diminished until it was scarcely sufficient to soil a napkin during the entire day. On May 10 the urine contained a mere trace of albumen, a small sediment composed of pus and earthy phosphates, was faintly acid when passed, but became alkaline soon thereafter, and presented a specific gravity of 1005. Soon after this he went to the seashore.

On August 14 the little patient's mother called upon me to report his condition. She said that for as much as two weeks at a time there was no dribbling of urine from the wound; then an attack of pain was succeeded by dribbling for a time. He was very well in every other respect, although thin. He ate heartily and played all day long. He continued taking the sandal-wood oil, and for a time the benzoic acid.

Early in September, Willie returned from the seaside. He was very thin, but his wound had entirely healed. His mother reported that soon after his return he took cold two or three times in rapid succession, his stomach became deranged, his appetite disappeared, and he became weak and emaciated. I saw him September 20, the first time since his return, and was much struck by his emaciated and cachectic appearance. The urine presented about the same characters as when last examined. He was immediately put to bed, placed on restorative treatment, and for a time seemed to grow stronger; but, as though in consequence of the absence of treatment especially directed to the urine, the latter contained much more mucus and became alkaline, and these characters continued until the benzoic acid was re-ordered, when they partially disappeared.

The improvement in his general condition was, however, only temporary, and early in November it was evident he was again declining. He emaciated, grew weaker day by day, and died on the afternoon of November 15, 1879, although he was out in his coach two days before. On the day before his death he had to be catheterized, but there was considerable urine in his bladder, and there was no reason to suppose there was suppression of the secretion. He also suffered a great deal of abdominal pain for two or three days before he died. Very interesting in connection with the results of the post-mortem examination is the fact that his father, while feeling his abdomen on the afternoon before he died, discovered a hard, irregular mass in the neighborhood of the umbilicus.

The *post-mortem examination* was made fifty hours after death. The body was extremely emaciated, but all the organs were found normal except the kidneys, ureters, and bladder. Both kidneys were cystic, each being converted into a multilocular cyst, of which the loculi were distended with a mixture of pus and urine, the former apparently predominating, as there was very little urinous odor. The left kidney was the larger, measuring 10.5 cm. by 5.5 cm. Its surface contained numerous white tubercles (see A, A in the figure), ranging in size from that of a pin's head to a pea. The *pelvis* of this *left kidney* was distended with the same fluid which filled the loculi, and the left ureter—dilated throughout its extent—was almost completely occluded by a single calculus of most peculiar shape. It was spirally twisted and somewhat spindle-shaped, much constricted near its middle, and 5.5 cm. long by 1.5 cm. in its thickest part.

The *right kidney* was smaller, measuring 8.5 cm. by 4 cm., but in all other respects similar. The pelvis and ureter were dilated, and the latter packed with three fragments of what was originally a single stone, constricted at two points, where it had probably been fractured in removal, making three pieces. The original stone was arcuate in shape, 10.5 cm. long and 1 cm. wide at its middle. The same tubercles were scattered throughout the cortex of this kidney.

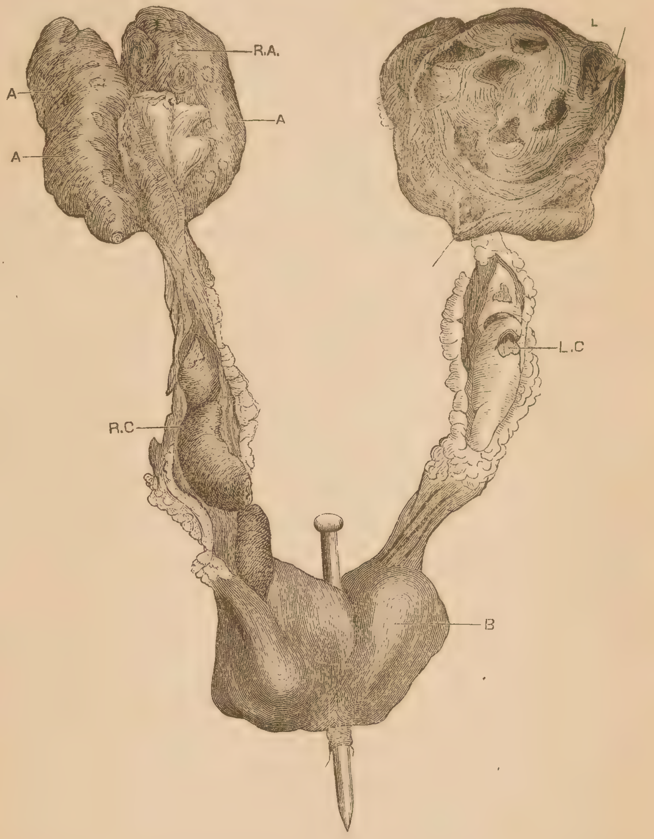
The *bladder* contained a small stone, which had evidently descended since the last operation, and was apparently a fragment of one of the stones remaining in the ureter, the fracture having taken place at a point of constriction. This stone was about 2.5 cm. long, and varied in diameter from .5 to .75 cm. The bladder was thickened, the mucous membrane thickened, and no traces of the cut made at the time of the operation were discoverable.

The pediculation observed on the stone removed at the last operation, which was believed to have occurred during its presence in the bladder, most probably did not occur there, as the stones found in the ureter exhibited the same peculiarities, although these pedicles were probably the means of its attachment to the bladder.

Remarks.—The case is a rarely interesting one, not only in its unique morbid anatomy, and as showing the rapidity and extent of sedimentary processes in the urine, but also in suggesting a possible explanation of certain recurrences of stone in the bladder; while from the therapeutic aspect it is not without its uses.

In the first place, it is evident that the hard mass felt by the father of the child through the abdominal walls just before death was made up by the calculi, which, although contained in separate ureters, united to form a single confused mass in the median line just above the sacrum. How long before death this could have been felt I do not know, for I had not examined the abdomen for some time. There is every reason to believe, however, that it might have been recognized at any time subsequent to the emaciation, which began during his absence from the city, in the summer, and which so impressed me when I first saw him, some time after his return. The practical hint to be deduced from it is that frequent examinations of the abdomen should be made in cases of suspected impacted calculus.

A second interesting question refers to the cause of the peculiar spiral, corkscrew twist in the calculus in the left ureter, and the approximation to this appearance in the constrictions in the stone in the right ureter. At first I was inclined to account for this by some peculiarity in the mode of deposit; but could it not have been the result of the solvent action of the urine as it trickled round the stone in seeking an outlet from the pelves of the kidneys through the ureters, the lumina of which were so tightly filled by the calculi? Support to this possibility is afforded by the fact that the stones are phosphatic, and that the urine was kept acid more or less constantly by the benzoic acid, and by the fact that there were no concretions in the



kidneys themselves and their pelves,—only in the lower halves of the ureters.

A third point of interest bearing upon the termination of the case was the relation of the walls of the left ureter to this spiral channelling of the stone contained in it. They were closely applied to it, as the threads of a female screw are to those of the male screw which passes through it. Hence the impaction was complete, and it was impossible for this calculus to descend farther. The impaction of the stone in the right ureter was almost as complete, and it was impossible to move either until the ureter was slit up, while with great difficulty were the folds reached which applied themselves to the spiral channel.

Fourth, certain recurrences of stone in the bladder receive a lucid explanation by this case. It will be remembered that two stones had been removed at successive operations, and one was found in the bladder at the post-mortem examination. The first removed, judging from its size and shape, was evidently a separate stone; the second small stone removed by operation, although its ends were both rounded off, corresponded in size with one of the fragments of the stone in the right ureter, and the little prominences by which it was imbedded in the walls of the bladder, causing its adherence to the latter and consequent difficult removal, were precisely similar to others on the impacted stones. Hence it was very likely a fragment which had broken off from the parent stone at one of the constricted points, after it had been extruded a certain distance into the bladder; for the stone which was found in the bladder at the post-mortem examination had evidently recently broken off from the parent stone, as it presented a faceted end, which fitted another on the lower end of the impacted stone. And it is not at all impossible that had the child lived another portion could have broken off and been projected into the bladder.

Finally, the therapeutics of the case show indisputably the efficiency, first, of sandal-wood oil in catarrhal states of the bladder, and, second, of benzoic acid in securing an acid reaction in urine which has a tendency to be alkaline. Tannic acid in sufficiently large doses was substituted for the benzoic acid for a time, without the same effect in diminishing the alkalinity of the urine and thereby diminishing the viscidity of the mucus.

With regard to the administration of the benzoic acid, it was given in the shape of compressed pill, which, after a good deal of experience, I am convinced is by far the best mode of administration of this otherwise most unpleasant remedy. The pill thus prepared is tasteless, is swallowed with great facility, does not irritate the stomach, and the remedy is as efficient in this as in any other mode of administration. The dose given was at first half a grain three times a day, which was afterwards increased to five grains, as often, and continued for weeks, only with advantage. It had been discontinued, however, for some weeks previous to the decline of appetite and the gastric derangement, which appeared at two months before he died. During the month before his death it was found necessary to return to it, in consequence of its useful effect upon the urine, which the untiring vigilance of the boy's mother had not failed to recognize.

It is scarcely necessary to say that the sandal-wood oil was found best administered in capsules. In this shape it could never be discovered that it caused any gastric derangement.

SOME NEW OBSERVATIONS UPON THE ANATOMY AND FUNCTIONS OF THE ANKLE AND TIBIO-FIBULAR JOINTS.

Read before the Philadelphia County Medical Society, January 28, 1880,

BY CHAS. B. NANCREDE, M.D.,

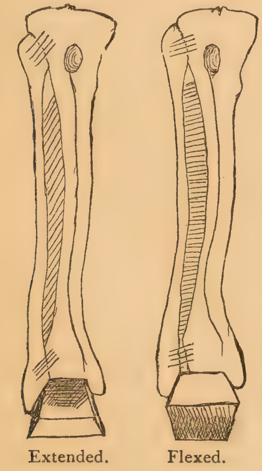
Surgeon to the Episcopal Hospital, Demonstrator of and Lecturer on Osteology and Syndesmology in the University of Pennsylvania.

GENTLEMEN,—The remarks that I propose making this evening are original only in the sense of the arrangement and interpretation given to them.. The mere knowledge of the configuration of the bony surfaces, and the course pursued by the ligamentous fibres, have been long known; but the reasons for the peculiar forms of the articular processes, the absolute necessity that the ligamentous bands should pass in a certain direction, and the "*raison d'être*" for two bones in the leg, have, I believe, never been before pointed out.

It will be well first to pass rapidly in review the main peculiarities of the bony surfaces involved, next to examine the ligaments, and finally to deduce from these facts the views that I maintain are correct with regard to the functions of the ankle and tibio-fibular joints.

The articulating portion of the astragalus entering into the construction of the ankle-joint is, in the first place, much wider in front than behind,—*i.e.*, *wedge-shaped, with its base forward.* Again, the lateral articular facets for the malleoli slope from above downward,—*i.e.*, *it is wedge-shaped from above downward, the blunt apex pointing upward.* In accordance with the shape of this bone, so is the socket formed by the two malleoli, it being much wider in front than behind. The bony surfaces composing the inferior tibio-fibular joint consist generally of a small crescent-shaped surface upon either bone, while all the rest of the apposed surfaces are much roughened for the attachment of a felt-like interosseous ligament. The superior tibio-fibular joint consists of a rounded or ovoidal facet, situated upon the fibular head, presenting upward, forward, and outward, which articulates with a similarly-shaped surface upon the back and outer part of the external tuberosity of the tibia.

The ligaments of both tibio-fibular joints need not be described very minutely for our present purpose. Suffice it to say that all the ligamentous fibres pursue an *oblique course from the tibia downward to the fibula*, and that the capsule of the superior tibio-fibular joint is a loose one.



Extended. Flexed.

The diagram will show the course pursued by the fibres better than description. As before said, the apposed rough surfaces of the inferior tibio-fibular joint are connected by a short, felt-like collection of fibrous tissue,—*i.e.*, the inferior interosseous ligament.

Only a few more preliminary remarks will be necessary before proceeding to draw the inferences which I propose deducing from the foregoing facts. The first is that the ligaments *must* be perfectly inextensible and inelastic to perform their functions properly.

A little reflection will demonstrate that, in walking, the moment the foot is placed upon the ground the body still tends to go forward from its own impetus, and there is a marked tendency for the leg bones to slip forward upon the dorsum of the foot. This is not theory, but a demonstrable fact. Some provision against this must be made. If the immunity from displacement had to depend on the posterior ligament of the ankle-joint, it would have to be enormously strong. But let it be never so strong, unless it were *tight* it would not prevent luxation. If, however, it were tense in all positions where this forward displacement was liable to occur, it *would render flexion utterly impossible.* What, then, *is* the arrangement found? Simply that the astragalus is wedge-shaped, with its base in front, so that the more the leg bones tend to slip forward the tighter the articular surfaces are pressed together. This also is not theory, but a simple mechanical fact. The shape of the bony surfaces—excluding the muscles, which, as is too commonly overlooked, are often the most important ligaments of a joint—is absolutely the only obstacle worth mentioning to forward displacement of the leg bones. Some anatomists go so far as to deny that there is *any* posterior ligament to the ankle-joint. Although I do not endorse this statement, it is manifest that to allow free flexion and extension movements to take place, both the anterior and posterior ligaments of the ankle must be loose; and if loose, not well marked, since they do not check movement, and great strength would be useless.

This shape, however, of the astragalus and its socket, if the latter were rigid, would completely arrest flexion, as the broad anterior end, already firmly embraced by the malleolar arch, could not be made to pass backward into the still narrower portion of the socket, as is actually the case in flexion.

The necessity for free and marked flexion in walking, etc., is well seen when the ankle-joint is anchylosed or stiffened, producing an exceedingly awkward and slow gait.

How, then, is an *adaptable* socket provided? Simply by having *two* bones in the leg, *one of which is movable*, the other fixed. By examining the diagrams it will be seen that the tibia and fibula can be compared to the two halves of a parallel ruler, and the ligamentous fibres to the two brass arms of the same instrument. Both the ligament and the brass arms are inextensible, but any wedge-like object insinuated between the two halves will push up the movable half and widen the space between them.

Just so in the ankle-joint. In extreme extension the narrow part of the astragalus is carried forward to that part of the socket which before accommodated the wide portion of that bone; and yet there is complete apposition of the bony surfaces, because the movable bone—*i.e.*, the fibula—glides down. Again, in flexion the wide anterior portion of the astragalus is pressed between the narrower portion of the socket, which is widened by the fibula gliding *upward.* This upward gliding approximates the attachment and origin of the ligamentous fibres just enough to permit the two malleoli to be sprung apart sufficiently to admit the base of the astragaloid wedge. From the mode of attachment of the middle band of the external lateral ankle ligament,—viz., in front and above the apex of the internal malleolus,—this structure is tense in every position of the joint, and especially in extension winds around the malleolus, thus pulling it down and narrowing the socket in the extended position when such a condition of the malleolar arch is demanded. Any one who will examine either his own leg or that of a cadaver will see that these facts are capable of easy demonstration.

In claiming originality for my views, I wish merely to say that I am personally unaware of similar explanations of the functions of these joints, and have been informed by two of the highest authorities on anatomy in this country that they are new to them. I have been unable to find anything in the remotest degree resembling them in my reading, but shall be happy to acknowledge the priority of any other observer's claims if proved to me. The importance of these facts will be patent to any surgeon as explaining some of the troubles referable to the ankle-joint when the foot has been kept too much extended after fractures, sprains, etc., especially when complicated with injury to the inferior tibio-fibular joint, as is so common, it in reality being part of the ankle-joint.

REMARKS ON LIPÆMIA RETINALIS OCCURRING IN A CASE OF DIABETES MELLITUS.

Read before the Philadelphia County Medical Society, January 28, 1880,

BY ALBERT G. HEYL, M.D.,

Ophthalmic Surgeon to the Episcopal Hospital.

I WISH to present to the notice of the Society a copy of the fundus oculi of a case of diabetes mellitus. It is well known that diabetes mellitus is frequently accompanied by abnormal conditions of the eye: this fact was noticed far back in pre-ophthalmoscopic times. Rollo, in his monograph on Diabetes, London, 1798, refers to two cases of the kind, probably the first mentioned in literature in which there is reason to infer that the diabetes was the cause of the eye affection. It is true that Blankaart, of Amsterdam, in 1688, mentions the occurrence of blindness in a case of diabetes; whether the case were one of diabetes mellitus or insipidus does not appear. Possibly Blankaart was unaware of the distinction, as it was only fourteen years previously that Thomas Willis called attention to the sweet taste of the urine of certain cases of diabetes. However, as Blankaart ascribes the blindness of his case to a tumor found after death pressing upon the optic nerves, we must look upon the blindness rather as a coincidence than a sequel of the diabetes. Since Rollo's time numerous instances of eye affection in diabetes mellitus have been observed, and in later years the ophthalmoscope has enabled us to study them more closely. These eye affections are disturbances of refraction and accommodation, lens opacities, vitreous clouds and hemorrhages, certain affections of the optic nerve, and certain affections of sight apparently depending on central lesions. It is, however, to none of these that I invite attention to-night. The appearance I bring before you has, I believe, never been described or copied.

The patient from whom this picture was copied was an inmate of the male medical ward of the Episcopal Hospital, under the care of Dr. Louis Starr. Owing to his complaining of defective vision, I was asked to examine his eyes. I saw him for the first time November 11, 1879. Examination, under atropia, revealed a nuclear cataract, with partial involvement of the cortical, on each side. The appearance of the fundus of each eye was quite peculiar; that of the left was more visible than that of the right, owing to the left lens being less involved than the right; still the right fundus was clearly enough visible. The peculiar appearance which attracted my attention was the color of the blood-vessels. Those of you who are familiar with the normal fundus know that one of the most striking objects seen in ophthalmoscopic examination is the retinal vessels,—that the retinal veins are characterized by their larger size and the dark color of their blood, the arteries being smaller and lighter in color. In the picture of the fundus which I present to you you will notice at once a great difference from the normal appearance. The vessels are very light in color, both veins and arteries, and the color very closely approximates that of the fundus; the veins are very large in size, and at the same time not tortuous; the artery is seen branching off from the trunk and running downward and inward for a short distance, and is then lost, by reason partly of similarity of color, in the fundus. Whether a branch also ran upward could not be told. A vessel in the upper half of the fundus is seen stopping, apparently, at the edge of the excavation; it could not be traced farther: very possibly it was a branch of the artery.

The color of the vessels is represented as they appeared when the light was thrown on them directly; when the mirror was shifted by a slight rotary motion the veins could be distinguished by their slightly darker color. There was no retinitis in either eye, nor were any hemorrhages seen.

I will now pass around this accurate painting of the fundus of the right eye; it was very skilfully copied for me by my friend Dr. Nancrede, and recalls the case very vividly to my mind. While the picture is being examined we may briefly discuss its nature.

1. Was it due to any structural change in the vessel-coats, by reason of which the contained blood was partially obscured from sight? There are morbid processes which attack the tunica adventitia of the vessels, which may almost render the blood invisible to the eye. The appearance of this condition is totally different from that under consideration. Those acquainted with the two could not mistake the one for the other.

2. We may, then, turn to the character of the blood itself. To be as brief as possible,—for I am only presenting this picture, not attempting to do more,—the blood was examined: the finger was pricked, and a small quantity of blood obtained. The character of the blood was very peculiar: it had a milky-red hue, approximating that of a piece of pink coral. Examination with the microscope revealed the presence of fat globules. The number of red globules was carefully counted by Dr. F. P. Henry, and it was found that the blood was not leucocythæmic. This was, therefore, one of those cases of diabetes mellitus accompanied by lipæmia, or a condition of blood characterized by a milky hue, arising from the presence of an abnormal quantity of fat. Cases of the kind have been described by Virchow, Griesinger, Kussmaul, Sanders, and others.

This peculiar appearance of the retinal vessels was then, doubtless, due to abnormal presence of fat in the blood, and I may properly apply to it the name of retinal lipæmia.

I have thus presented to your notice this picture of the fundus oculi of this case, without going into the details. The case will be reported in full in one of the journals, so that opportunity will then be given to learn them. The condition is interesting from its novelty, but it may also have some practical bearings. Without, however, alluding, at this time, to points which might be of interest to the specialist, I have presented this picture as showing one feature of an obscure complication of an obscure disease. I thought also it would be of some interest to the Society, as the attention of the profession has recently been called to this condition of lipæmia in diabetes mellitus: I refer to the able and interesting paper on Lipæmia in Diabetes Mellitus and Fat Embolism, written by Professor Sanders and Mr. Hamilton, published in the *Edinburgh Medical Journal* for last July.

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Of the one hundred and thirty-three candidates examined at the Royal College of Surgeons of England this winter, seventy-seven passed to the satisfaction of the Court and obtained their diplomas; seven passed in Surgery, and when qualified in Medicine will be admitted Members; the remaining forty-nine failed to reach the required standard, and were referred for six months' further professional study.

TOOTH-CARIES OF PREGNANCY—ITS CAUSE AND TREATMENT.

BY EDWARD C. KIRK, D.D.S.,
Philadelphia.

IT is a well-known fact that during pregnancy women are often subject to more or less annoyance and discomfort from their teeth. This disturbance may vary in degree, from a slight uneasiness—a mere consciousness on the part of the individual of the presence of teeth in her mouth—to the severest form of odontalgia, involving several teeth. The frequent occurrence of rapid and extensive destruction of tooth-structure during pregnancy is so well recognized that it would be useless to multiply examples: one case will serve to illustrate. Mrs. J. presented herself for examination of her teeth. She gave the following history. Up to the time of her marriage the teeth had been of good quality, rarely requiring the services of a dentist. During the three years following marriage she gave birth to two children; she also suffered much from toothache, and had two of her teeth extracted. After the birth of her second child she placed herself under the care of a dentist in a neighboring city, who put her mouth in order; he being a thorough and conscientious operator, the work was well done.

Again she became pregnant, suffering as before with her teeth; some of the fillings dropped out, and a number of new cavities appeared. It was after the birth of this her third child that she came under my charge. On examination, I found the teeth very sensitive, and so soft that they could be cut away almost like chalk. The decayed portions were of that peculiar cartilaginous character which indicates a loss of the mineral portions of the tooth. I filled, in all, seventeen cavities, some large, others small, and extracted the root of one tooth too far gone to be of service in sustaining an artificial crown.

This case is a typical one, and illustrates well a class of cases that call for a large share of the dentist's attention. In those cases where women have borne children rapidly, it is the common story that up to the time of marriage the teeth were of good quality and gave but little trouble, but since have rapidly failed.

As to the cause of this degeneration of tooth-structure during pregnancy, there is little reason to doubt the accepted explanation that an excessive demand is made upon the system of the mother for the lime-salts necessary to the formation of the osseous structures of the fœtus, and the teeth of the mother suffer, along with her osseous system, in meeting this demand when the supply of lime-salts is not sufficiently kept up in the mother's food.

We believe that much can be done to avert this wholesale destruction of the teeth, the loss of which entails so much disfigurement and physical suffering. If the cause be as stated, then to supply food rich in lime combinations is the rational indication. But most of the food brought to our tables is not rich in bone-forming material, and it may be that even a liberal supply of lime-containing food would not meet the urgent demands made during pregnancy upon a system already poor in lime-salts: certainly the judicious use of some of the soluble preparations of lime, such as the lactophosphate or hypophosphite, would be of benefit in such a case, not only in maintaining the lime standard of the mother, but also in insuring to the fœtus a well-developed osseous and dental organization. We have every reason to believe that rickets is due to lime-starvation on the part of the mother and child; and evidence is not wanting to show that certain malformations of the jaws, and consequent irregularities of the teeth, are in a measure due to the lack of sufficient bone-forming material during fœtal development.

A fact in this connection which I have had occasion to observe more than once is that in a large number of pregnant women the morbid craving, so called, for unusual articles of food—which is so often present and may occasion great annoyance to both patient and physician—is for articles of a mineral character, as chalk, slate-pencils, lime, plaster, whiting, etc.

Two cases in particular have come under my notice. In the first case the woman would mix a saucerful of whiting and water, which she kept near her during the day, and would eat large quantities of it with evident relish.

In the other case the lady stated that during her pregnancies her desire for lime was so great that she would almost have to run past a mortar-bed in the street lest the desire to stop and eat portions of it should overcome her. When at home, she would pick particles of plaster and whitewash from the wall and eat them greedily.

It seems reasonable to believe that this craving is nothing more than nature's method of expressing the need for lime-salts when, from pregnancy or other causes, the supply is not equal to the demand and the system is poor in lime as a consequence. I say from other causes; for what else is it that will make a rapidly-growing, overworked school-girl chew her slate-pencils and lead-pencils with such apparent relish?

If all this be true, then the treatment before indicated of supplying to the system all the lime it needs, either by properly selected food, or, if occasion demands it, by the administration of a sufficient quantity of some soluble preparation of lime, ought to do much towards averting the destruction of the teeth by caries during pregnancy, and relieve the distressing cravings for unusual kinds of food incident to that period. As having bearing upon the subject and showing that an increased amount of lime is demanded by the system during pregnancy, I may cite the fondness which birds and fowls generally have for lime, oyster-shells, plaster, etc., during the egg-laying period. Another point which I have noted is that this fondness for lime is displayed on the part of the female more than on that of the male: hens will quarrel for the possession of an empty egg-shell, and the cock will look on without interest while they devour it greedily.

The effect of an insufficient supply of lime is seen sometimes in the case of caged birds, as canaries. If they are not supplied with cuttle-fish bone during the breeding-season, the eggs will be laid without shells, or with shells so thin that they will not withstand the slightest touch. This same result takes place with hens that are cooped for a length of time and are not supplied with a proper quantity of lime-containing food. Is not the desire for lime shown by these animals analogous to the craving so often exhibited by pregnant women for like substances? It is true the craving does not in every instance take the form of a desire for lime; but nevertheless it is probably only an expression of the same need lacking proper direction.

The system makes demands for what it needs in a way there is no mistaking. At times we crave acids, and we indulge freely in pickles, acid fruits, etc. At other times sugar or salt is needed, and we eat accordingly. This is further illustrated by the long pilgrimages made by the buffaloes and antelopes of our Western territory to the salt-licks, in order to satisfy their instinctive demands for salt.

The rapid destruction of teeth during pregnancy, and the therapeutic measures suggested by the so-called morbid cravings, are of equal importance to physician and dentist.

To secure for the overtaxed child-bearing woman immunity from much pain, nervous distress, imperfect mastication, and impaired digestion, by the preservation of her teeth, cannot be considered as a trivial matter.

As the sphere of the dentist to-day is limited in a great measure to the repair of injuries already sustained by the teeth, we must look to the members of the medical profession to aid us in answering the question, How much in the way of preventing the decay and loss of the teeth from pregnancy can be accomplished by supplying to the system all the lime it needs during the gestative period?

1807 CHESTNUT STREET.

DUBOISIA—ITS PECULIAR AND GENERAL EFFECT COMPARED WITH ATROPIA.

BY WILLIAM S. LITTLE, A.M., M.D.,
Chief of the Eye Clinic, Jefferson Medical College Hospital.

DUBOISINE has already been in use a length of time sufficient for its value as a mydriatic to be judged, both in its therapeutic influence on the eye and in its mechanical action on the ciliary muscle for correcting ametropia.

Having used it almost continuously at the eye department of the Jefferson Medical College Hospital, and in my private practice, since July, 1879, a record of some of its peculiarities and general effects may be interesting to consider.

Professor William F. Norris, M.D., in an article on duboisia as a mydriatic, with remarks on its physiological and toxic effects, published in *The American Journal of the Medical Sciences*, No. 154, April, 1879, has given an ample description of the drug and its effects on animals and man.

In reference to animals he says, "It produces intoxication, delirium, dilatation of the pupils, loss of co-ordinating power over the limbs, and relaxation of the sphincter (urination and defecation), with a marked rise of temperature, followed by a decided fall of it below the normal standard."

In two cases observed by me I have found nearly all those symptoms occurring in man which Professor Norris has stated as seen to occur in animals.

The symptom I desire to notice chiefly in this paper is that of relaxation of the sphincter of the bladder, allowing an involuntary act of urination, in addition to the other already observed influences of the drug on man.

During December, 1879, Dr. ——, æt. 36, requested me to correct his optical defect. A four-grain solution of sulphate of duboisia was used, three drops of it in each eye once, an interval of five days elapsing between the examination of each eye.

Normal mydriasis occurred. After each instillation dizziness took place, drowsiness and slight want of co-ordination of the muscular system followed, and, in addition, there was observed a peculiar influence on the bladder, taking place in the same way after the use of the drug in each eye at separate times. The patient stated that the first attempt at urination, a few hours after the use of the drug, was normal and entirely voluntary, and he supposed the act accomplished, when, in a few moments, a second and then a third involuntary act took place, he not being prepared for it the first time, but thereafter was more cautious. This action lasted three days after the use of the drug in each eye, and was thus observed twice in its influence on the bladder in this patient.

In another case, observed in March, 1880,—Dr. ——, aged 25 years,—the same strength solution was used for refractive purposes in the right eye. The instillation was made at 2 P.M. Dizziness was felt at the end of fifteen minutes, and continued for fifteen minutes longer while sitting still; on walking, want of full power of co-ordination was experienced, and the patient said he felt as if intoxicated. The necessary examination was then made, and at the end of an hour from its use the doctor went home, which was near at hand. He said he suffered while going in the same manner, and then on his arrival lay down and went to sleep. At 7 P.M. he was aroused, after some effort by his friends, to partake of supper, and thereafter suffered no inconvenience in the same way. Later in the evening he urinated normally, and considered the act finished, when, in a few moments, a second and involuntary act took place, much to his disgust and surprise. This occurred for three days, he being prepared for it thereafter.

There was no pain, irritability, or increase in the amount of urine voided or in the force of the expulsion, in either of these cases, nor was there any greater frequency in the voluntary act.

Three weeks later I used two drops of a four-grain solution of sulphate of atropia in the left eye of the last case mentioned, for refractive purposes and to compare the action of duboisia and atropia in the same patient. Only normal mydriasis occurred, and no other constitutional manifestation, not even dryness of the throat. Atropia was evidently to be preferred by him. These medical gentlemen compared notes, and informed me of their unpleasant experience, which I consider worthy of narration, showing how men and animals can be similarly affected by the same drug.

Since my experience with these gentlemen I have sought for the same manifestation in all of my male patients under its influence, but have found no other as yet; nor do I know of any such action on the opposite sex. Men I have found to be most susceptible to the drug, children slightly so: more cases must be observed on this point. In a more general way, I have found cases of interest exhibiting the effect of the drug. To dilate the pupil in a lady sixty-nine years old to investigate a senile cataract, I used one drop of a two-grain solution of sulphate of duboisia; two hours later, while returning home, she had sudden loss of control of her limbs, and had to be carried home, her friends thinking she was paralyzed. She slept very profoundly; had slight delirium; the next day was well again; later the cataract was removed, no duboisia being used, on account of her susceptibility, but she bore the solution of atropia, two grains to the ounce, very well.

I used a four-grain solution of duboisia in a case of irido-choroiditis with vitreous opacities, specific, only once, to dilate the adherent pupil, intending to continue its use for therapeutic purposes. The woman was twenty-eight years old, and, I have since learned, three months advanced in pregnancy; but on her way home she was compelled to be taken into a house and to lie down, as she was unable to walk. The effect soon passed off. A four-grain solution of atropia she has endured with only slight dryness of the throat, and a good result has ensued.

The condition of the atmosphere and temperature of the weather have an influence on its use. The unpleasant effects of the drug have been more prominent during the mild, disagreeable, damp weather of the past winter; on cold, clear days it is better accepted.

I have resorted to atropia latterly on warm, disagreeable days, with no bad effects.

There exists also a certain variableness in the drug, one solution acting more unpleasantly than others, and all made from the same bulk; and yet I have had solutions from various sources also.

The cases narrated exhibit the peculiar and general effects of duboisine as I have observed them during my use of it, and which I desire to add to those already made known by other observers.

The only value to be derived from its use is in gaining time in the study of refraction, and that is a decided one where time is a factor. Therapeutically, atropia is to be preferred; and where time is no essential consideration, in the correction of ametropia I would still use atropia. No permanent ills have followed the use of duboisine thus far, and its efficiency is not to be denied.

The action of the drug on the bladder in the cases quoted was no doubt due to partial paralysis of the constrictor urinæ; and if the action of the drug could be gauged for the genito-urinary system, it might be of use in some cases affecting that portion of the body.

STRYCHNIA SULPH. ANTIDOTED BY ATROPIA SULPH.

BY GEORGE ROBERTS, M.D.,

Bazile Mills, Knox County, Neb.

No. I.—May 23, 1879. Mrs. S., past 70 years of age, poisoned by eating cocoanut candy in which strychnia sulph. had been given with criminal intent. On my arrival, I found the patient under the full influence of the poison; the slightest noise or jar produced violent jerking of the muscles, accompanied by starts. I determined to try, first, atropia sulph. I dissolved a quantity—probably two or three grains—in half a tumbler of water, giving fʒij every fifteen minutes, promptly relieving the symptoms. There continued, however, twitchings of the bowels and strangury for several weeks, for which many remedies were tried. Veratrum viride gave the best results for the urinary trouble, but the disturbance to the alimentary apparatus yielded only to Horsford's acid phosphate, one bottle, f℥viij.

No. II.—May 26. The son of Mrs. S., aged 40, became suddenly ill from drinking half a tumbler of whisky. As soon as the symptoms were discovered, the medicine in possession of No. I. was given (atropia sulph.), and the patient recovered promptly, as did No. I., before I arrived, a distance of sixteen miles. This latter patient must have died had not the atropia been on hand. The whisky was a saturated solution, as I discovered several large crystals of strychnia sulph. in the one-quart bottle of whisky. I gave ten drops of the whisky to my cat, developing the shocks in just five minutes, and but for the pleadings of my daughter would have continued the experiment, but promptly relieved the symptoms by giving atropia in powder by the mouth, inducing sleep. No other treatment was used in the above cases.

TRANSLATIONS.

Quebracho in Dyspnœa and Diarrhœa.—The accounts which we get from foreign observers as to the action of quebracho continue to show that this drug is a valuable addition to the *armamentarium therapeuticum.* Berthold has published in the *Berliner Klinische Wochenschrift*, No. 52, 1879, an account of several cases of severe convulsive asthma where this remedy seemed to produce a very happy effect. In one, a gentleman of sixty-five was found in a violent attack, pulse 108, respiration 64. A teaspoonful of the tincture was given every hour, and at the end of three hours the respiration was reduced to 30, and the patient rapidly recovered without other medicine. In some fourteen other cases a similar happy result was attained, though not always with the same promptitude. In the case of a lady of sixty, suffering from mitral insufficiency, with stenosis and frequent attacks of frightful dyspnœa, where digitalis had failed, quebracho gave relief. Berthold also recommends the alcoholic extract of quebracho as an excellent remedy in diarrhœa. In the case of children, he gives the extract in the dose of 1½ grains in pill form to the number of ten a day. No ill effects have been observed. In the same number of the *Wochenschrift* Dr. Picot relates some experiments made upon himself to ascertain if quebracho would prevent dyspnœa from the exertion of climbing, and found that by taking a previous dose of about a tablespoonful of Penzoll's tincture he could climb a considerable acclivity without losing his breath. He has also administered the tincture to two obese and short-winded individuals, with the result of markedly diminishing the dyspnœa felt on extra exertion.

Hydatid Cyst of the Biceps.—Dr. Bouillet (*La France Méd.*, January 24, 1880) reports the case of a woman who presented herself with a tumor of the right arm of some years' duration, following, she thought, a blow upon the arm. Examination showed an indolent swelling the size of a hen's egg situated on the internal aspect of the arm at the border of the biceps, just above the epitrochlea. It was strongly adherent to the intermuscular septum, and even seemed to have some attachment to the periosteum. It was soft and semi-fluctuant, and gave the impression under the fingers of including a number of lobes separated from one another and partly movable. It was impossible to make an exact diagnosis, although Prof. Richet, who saw the case, inclined to the belief that it was a multilocular cyst. An exploration with a trocar did not give exit to any fluid, but incision showed purulent and gelatiniform contents. No hooklets of the echinococcus could be found under the microscope, but the appearance of the small vesicles showed the tumor to be of a hydatid character. Injections of alcohol and subsequent cauterization of the interior of the cyst with nitrate of silver cured the patient entirely. Dr. Bouillet calls attention to the rarity of such cysts, and adds remarks on diagnosis.

Fracture of the Clavicle, Lesions of the Brachial Plexus, Various Trophic Disturbances.—Chalot reports the following case (*Bull. de la Soc. de Chir.*; from *Cbl. f. Chir.*, 1880, p. 112). In the case of a man of 35, disturbances of innervation showed themselves in the right arm, as a result of fracture of the clavicle. Beginning with a sensation of deadness, formication, and pricking, particularly in the palm of the hand, the affection went on to extreme anæsthesia. Very slight irritation of the finger-tips or the hollow of the hand, or somewhat greater movements of the flexor surface of the forearm, brought on nausea, gagging, and vomiting, with occasional severe diaphragmatic cramp and thoracic oppression ("beklemmung"). The patient became first pale, then red; a cold sweat covered the forehead on the affected side. Irritation with cold water caused the symptoms to appear to a more marked degree, while warm water made them milder. The extremity became smaller, colder than the healthy side, the skin everywhere dry except in the hollow of the hand, there wet with perspiration. The muscles reacted weakly. Pressure upon the branches of the nerves brought on swimming in the head and faintness. Pressure upon the callus at the point of fracture of the clavicle, which had united with considerable deformity, was quite painful and gave rise to diaphragmatic cramp. Pressure upon the nerves of the face, throat, and nape of the neck on the affected side caused similar symptoms.

Benzoate of Sodium useless in Diphtheria.—Gnändinger (*Cbl. f. Chir.*, 1879, No. 49; from *Wiener Med. Blätter*) says that of seventeen cases of diphtheria in children treated by the benzoate of sodium, so warmly extolled by Letzerich, eight died. Of seventy-six others treated in the same hospital with ice, chlorate of potassium, and stimulants, twenty-five died, while two were under treatment at the time of the report. Gnändinger propounds the four following questions: 1. Has benzoate of sodium any perceptible influence upon the rapidity with which the existent false membrane is thrown off? 2. Has it any influence in preventing the formation of this false membrane? 3. Are disturbances of the general system relieved or prevented? 4. Does this medicine itself influence the condition unfavorably? All four of these questions are answered negatively by Gnändinger. He says, "The benzoate of sodium has not sustained the character claimed for it by Letzerich, of 'certainty and rapidity,' either with regard to its influence in curing the disease, or even of relieving the more important symptoms."

Atropia in Spermatorrhœa. — Dr. Stephanides had under his care a case of progressive muscular atrophy with beginning bulbar paralysis, complicated by profuse and rebellious spermatorrhœa. As the latter symptom could not be attributed to a condition of irritation in the genito-urinary passages, it seemed likely that relaxation and dilatation of the ejaculatory ducts had occurred as a result of irritation of that portion of the spinal cord which presides over the formation and evacuation of sperm. Regarding the condition of affairs as comparable to that found in salivary hypersecretion resulting from bulbar paralysis, it seemed likely that atropia, which proves useful in this disorder, should also be beneficial in spermatorrhœa from the same cause. Atropia was, therefore, administered in solution in the dose of $\frac{1}{100}$ grain every evening. In three days the spermatorrhœa was arrested, and in a very short time entirely cured.—*Jour. des Sci. Méd.*, 1880, p. 36; from *Wiener Med. Presse.*

Proportion of Carbonic Acid in the Air (*Cbl. f. Med.*, 1880, p. 14; from *Comptes-Rendus*).—According to former researches, it appeared that under different circumstances the proportion of carbonic acid in the air varies from 0.4 to 0.6 per mille. Reiset, however, has recently ascertained that this proportion is much smaller and the variation minimal. As a result of eighty experiments, all upon an air from the open country, Reiset finds an average of carbonic acid in the air of 0.2942 per mille. Vegetation is almost without influence upon this proportion. The greatest variation observed was 0.03 per mille. The exactness of the method—the volumetric baryta method of Pettenkofer, using two aspirators of 600 litres contents—is shown by the fact that the presence of a herd of cattle in the field one day made the proportion of carbonic acid rise to 0.3178 per mille. The air of Paris showed an average of 0.3027 per mille.

Important Cardiac Anomaly.—Pistoni (*Lo Spallanzani*), at a post-mortem section, found a tumor as large as an apple situated upon the anterior surface of the heart at a point corresponding to its base. This tumor was hollow, with membranous walls, and must have contained blood, since it communicated with the aorta by means of the orifice of the right coronary artery, and with the right ventricle by an opening of six millimetres at its widest point, situated towards the external part of the arterial cone. At this point the latter had lost its muscular character, and appeared like a large fibrous sac containing the tumor. The tumor was supposed to be an aneurism of the coronary artery, of which only five cases are on record. The patient was a woman of 45 to 50 years, who had suffered with œdema of some of the viscera. No other clinical facts are given.

Poisoning by External Influence of Carbolic Acid.—Zillner (*Cbl. f. Chir.*, No. 7, 1880; from *Wien. Med. Wochens.*) gives three cases, of which the first is interesting because the carbolic acid ate into the skin, which was previously intact, and produced fatally poisonous symptoms by absorption. An infant of fourteen months overturned upon itself a can of carbolic acid used for disinfecting purposes. Loss of consciousness soon ensued, followed by death. Autopsy showed the skin reddened and corroded, the hair follicles and glands appearing as white points. Phenol was found in the urine. The mucous membranes showed no signs of the influence of carbolic acid, proving that the poison had not been swallowed.

Case of Tuberculous Fibro-Sarcoma of the Inguinal Cutaneous Tissue.—F. Neelsen saw in a woman of 44 a diffuse, roundish tumor of the hypogastric and iliac regions, with irregular, nodulated surface, which developed gradually in the course of seven years from two small tubercles. The extirpated tumor proved to be a fibro-sarcoma, and included only the lowest layers of the corium, the neighborhood of the sweat-glands and fat lobules. Two similar cases, occurring in women of 57 and 60 years, are recorded by Liron as "*chéloide inguinale spontanée.*" They relapsed repeatedly.—*Cbl. f. Chir.*, No. 7, 1880; from *Arch. f. Klin. Chir.*

Puerperal Hypertrophy of the Heart.—Cohnstein (*Cbl. f. Med.*, 1879, p. 861; from *Virchow's Archiv*) concludes, as a result of a number of observations, personal and other, that in not a few pregnant women who are regarded as comparatively healthy, if a hydræmic condition of the blood be regarded as a normal accompaniment of this condition, certain changes occur in the heart. These are dilatation or hypertrophy, which appears in the second half of the pregnancy.

Dr. F. Hänisch relates (*Arch. Klin. Med.*, xxiii.) a case of wounding of the gastric mucous membrane by the stomach-pump without bad after-results.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MARCH 27, 1880.

EDITORIAL.

THE PHILADELPHIA HOSPITAL.

FOREMOST in this city in point of size and in the richness of its clinical material is undoubtedly the Philadelphia Hospital. Any interference with its usefulness as a centre of medical teaching is, therefore, a matter which concerns the profession not only of this city, but also of the far wider area from which our medical classes are drawn: so that no apology is necessary for our calling attention to a recent action of the President of the Board of Guardians, although a personal element may seem to enter largely into the matter. Indeed, to our thinking, the general interest in the subject is increased rather than minified by the personal element. If the members of the medical staff are to be subject to gross insult in the performance of their duty, the sooner all respectable physicians sever their connection with the institution the better.

The circumstances of the case are briefly these. Some years since, a paper was circulated among the medical staff of the hospital asking their opinions or desires concerning the admission of female students to the public clinics. Acquiescence in such admission was general, but Dr. J. William White objected, because his clinics were chiefly upon venereal diseases. Since then the students of the highly reputable Woman's Medical College of this city have very properly acquiesced in this objection to the extent of either remaining away from Dr. White's clinics or of leaving when certain cases were brought before the class; and Dr. White has in his possession a letter from Miss Bodley, dean of the faculty, and endorsed by a vote of the faculty at a special meeting, exonerating him in the matter concerned.

There are, however, other females attending the Philadelphia Hospital clinics besides the uniformly well-behaved students of the Woman's Medical College. Some of these persons have, in times past, acted in such a way that we would respectfully suggest the passage of a rule by the Hospital Committee requiring matriculation tickets to be shown, so as to make it impossible for loose women to attend clinics in the disguise of medical students, or at least to enable the authorities to track all individuals who behave improperly. This *en passant.*

Last Wednesday week Dr. White unexpectedly found half a dozen women upon the benches when he commenced his lecture, but very properly proceeded as though he were lecturing to males alone. It should be remembered that Dr. White and his particular medical *penchant* are well known: so that the students spoken of might have withdrawn, if they had so wished. They preferred, however, to sit through the lecture; and the next morning Dr. White received from Mr. Chambers one of the most insulting and arrogant notes we have ever read:—insulting, because, without inquiry, and upon anonymous, one-sided evidence, it, in vulgar language, accused Dr. White of "brutal and ungentlemanly conduct while lecturing;" arrogant, because it assumed the rights and authority of the Hospital Committee of the Board of Guardians.

We are glad to learn that the medical staff of the hospital have met and passed resolutions expressive of strong disapprobation of the action of the President of the Board of Guardians, and also of confidence in Dr. White, and demanding an investigation.

The matter is made worse by a scurrilous attack upon Dr. White, accompanied with multitudinous misstatements as to the facts, in one of the Sunday papers. We suppose it would be difficult to prove that this was not inspired by the President of the Board. In it we find another reason for settling, once for all, the whole question involved; and we trust that the Board of Guardians, whilst investigating this individual case, will adopt some general rules which shall govern the public clinics neither for the good of a handful of women nor for the good of a multitude of men, but of such character that medical students shall be, as it were, sexless, and shall have opportunity to see, in full illustration, all diseases to which flesh is heir, all students being allowed the important privilege of staying away from what they do not like.

Just as we are going to press, we learn that the Board of Guardians have, after investigation, passed unanimously a resolution expressing entire satisfaction with the conduct of Dr. White, both in the wards and in the clinic-room of the hospital. There can be no doubt that this is as it should be. In conclusion, we cannot refrain from expressing the hope that the President of the Board has been sufficiently humiliated to render him, in his dealings with the medical staff in the future, more gentlemanly than in the past. This is by no means the first time that he has attempted to bully members of the medical staff, and he may rely on it that any further improper interference on his part will seriously imperil his position upon the Board of Guardians.

THE Committee of the National Academy of Science recommends that at present no change be made in the existing National Board of Health, except in increasing the powers of the Executive Committee. It further urges continuance of the various researches already set on foot by the National Board of Health, and also the inauguration of investigations upon cholera, malaria, typhoid fever, diphtheria, and cerebro-spinal meningitis. The following recommendations in regard to quarantine questions seem worthy of detailed mention:

"5. That the Act to prevent the introduction of contagious and infectious diseases into the United States should be amended; and in order to enforce the penalties provided for vessels which shall enter ports of the United States in violation thereof, it shall not be necessary to show that the port of departure was, at the precise time of departure of such vessel, actually infected with contagious or infectious disease, nor that ten days' official promulgation in the port from which said vessel sailed should have been effected.

"6. That the National Board or its Executive Committee shall report to the President when any given city or locality is considered to be dangerously infected; and that upon the official publication by the President of such report the transportation of goods or persons from the place thus proclaimed as dangerously infected into other States shall be forbidden, under penalties to be imposed under the jurisdiction of United States courts, unless such transportation is carried on in accordance with the rules and regulations approved by the National Board of Health.

"7. That the President be authorized to call an international sanitary council, to meet at Washington, D.C., to which the several powers that have jurisdiction of ports likely to be infected with yellow fever shall be invited to send delegates, for the purpose of securing an international system of notification as to the actual sanitary condition of the ports and places under the jurisdiction of such powers, and of all vessels sailing therefrom.

"8. That the National Board of Health at once establish quarantine stations near the mouth of Chesapeake Bay and in the vicinity of Ship Island in the Gulf of Mexico; that these stations be provided with all the buildings, wharves, boats, and apparatus for properly treating an infected ship, including passengers, crew, and freight; and that they be kept up and managed by the National Board of Health."

CORRESPONDENCE.

LONDON LETTER.

IT is a day dark from heavy rain-clouds; there is a gale blowing, and the rain is driven audibly against the windows; yet the storm is welcome. We have had a long period without rain and without wind, and now we are glad of both. This long period of atmospheric stillness has produced some of the thickest, as well as longest-continued, fogs ever experienced. Day after day a dense, yellow, offensive, stinking fog has been somewhere. The low-lying neighborhoods near the Thames have not been specially affected: the fog has often been dense in the high-lying parts of Northern London. A huge mist-cloud, laden with smoke, smuts, and every kind of impurity, has for some time been floating up and down the Thames valley. One patient declared she could taste the fog, it was so offensive. Traffic was interrupted; policemen were put on at important corners, to tell travellers where they were and to direct them. The darkness of these dense fogs is far more bewildering than the darkness of night. The familar objects are obscured, and things usually not noted become the most prominent objects, and so help the bewilderment. One felt insecure and uncertain of one's way even in familiar streets and neighborhoods. At last have come wind and rain; the wind has dispelled the offensive fog-cloud, and the rain has washed the air till it is a distinct pleasure to breathe it. One fills one's lungs by deep inspirations, and the clear air is grateful and agreeable to the irritated mucous membrane of the respiratory tract. After the vile accumulations of smuts and other mechanical irritants to which the bronchial lining membrane had become subject, — the expectorated masses being of a dark-gray and sometimes positively black hue,—we now have a soothing, pure air.

The Registrar-General's returns tell how disastrous to life has been this period of fog and frost. Such a mortality savors of pestilence, so serious has it been. The fogs of the past period killed more English people than have fallen in any battle since Waterloo. Of course, many of those slain by the fog were children; but still the bulk were adults. Such a death-rate has not been known since the cholera outbreaks of 1849, 1854, and 1866. Compared with the death-rate of the preceding week, the increase has been fifty-four per cent. In the West End the increase was only thirty-two per cent., whereas in the eastern districts it was no less than eighty-three per cent. The Registrar-General had to expect seventeen hundred and nineteen deaths; the actual number registered amounted to the terrible total of three thousand three hundred and seventy-six. Sixteen hundred and fifty-seven persons have been surely killed off by this fog-cloud. If such is the number of the killed, what is the proportion of the wounded? How many persons have just escaped with their lives cannot be estimated, but their name is legion. Wearied diaphragms and strained right ventricles there are in any number; and it will take a considerable period of time before a very large proportion of the inhabitants of London forget, even as regards their subjective sensations, the fogs of Candlemas, 1880.

Strange to say, a number of persons with emphysema were not nearly so distressed as might have been expected. Whatever the explanation of this may be, the fact remains. But persons with pre-existing lung-affections of other kinds were severely taxed. Even those who were quite well felt a certain amount of oppression of their respiration, with some general depression, as if the arterial blood did not get freely into the cerebral arteries. This sensation of depression was still more marked in those who were laid up with their embarrassed respiration. It was not the larger air-tubes which were so much affected; it was the smaller ones which were implicated. Capillary bronchitis is ever a deadly disease, and in the recent fogs capillary bronchitis was associated with congestion of the lungs. Of course, the presence of the latter, by diminishing the thoracic space, aggravated the respiratory difficulty. And the expectoration was unlike anything I have seen before. Instead of the frothy mucus of ordinary bronchitis, it was a firm, ashen-gray mass, not at all unlike an oyster. One patient remarked that after a long paroxysm of coughing, in which the mass was felt to be dislodged, the long inspiration which followed drew it back, and all the coughing had to be done over again. These paroxysms of coughing were very trying with the embarrassed respiration, and the strength was severely tested in those who survived. In one case, an old gentleman of seventy-five, who had old-standing lung-mischief, he simply abandoned the fight: he was doing wonderfully well, all things considered, when suddenly he would do no more,—refused his medicine, his stimulants, and his milk and beef-tea, and determined to die. He would not fight any longer; he had enough of it; he had talked of dying for many long years, and he made his will and determined to die; and die he did, but not nearly as soon as he anticipated. The bulk, however, died with less philosophy, and in spite of all their efforts to live. It was a great pity, from a therapeutic point of view, that the old gentleman decided so positively to give up the fight when he did, for the plan of treatment was having a good effect in reducing the number of respirations per minute and in filling the arteries.

The large amount of lung-embarrassment in these cases was a special feature, and called for its appropriate treatment. In ordinary bronchitis there is the first stage of swelling of the bronchial mucous membrane, with an absence of expectoration, indicating nauseant diaphoretics to reduce the vascular turgescence and promote secretion. After that comes free secretion of frothy mucus, producing bubbling râles. A few days of free expectoration, when the patient's strength must be kept up by might and main, and then the expectoration gradually falls. But in these cases there was from the first expectoration of those curious, large, ashen-gray masses. The râles were fine, and there were no whistling and cooing sounds. It was a fight betwixt the respiratory centres and the diminished lumen of the finer air-tubes; and a stubborn fight these respiratory centres made. But terribly exhausting work is it to maintain the contest; and stimulating expectorants and nutritive fluids, with alcoholic additions, have to be given in no stinted quantities. What became of those patients who got paregoric, chlorodyne, or chloral I do not know, but probably the undertakers and the grave-diggers could tell of the strain put upon them. How long the respiratory centres could maintain the struggle when the paralyzing effects of these drugs are added to the already exhausting strain upon them, again I do not know, for no opportunity for watching the effects came under my personal observation. Firmly impressed by my experience of the stimulating effects of certain agents upon the respiratory centres and upon the cardiac ganglia, my therapeutic line of treatment was arranged accordingly. To flog these vital centres is clearly the plan to adopt. The heart and respiration must be kept up at all hazards; and kept up they were in most cases. Especially marked were the effects in one case, where there was old-standing emphysema consequent upon chronic bronchitis, with a dilated right heart, for which the lady spent a winter in Algiers three years ago. Fortunately, she had been on strychnia, digitalis, and iron for eighteen months, when the fogs came upon her in the midst of an active life. Sitting up in bed, her back supported by a board, with her shoulders fixed to give the accessory muscles of respiration fair play, her clenched hands spoke of the energy with which she maintained the fight for breath, whilst the dusky hue of her countenance told how keen the struggle was. An undaunted will was there, which had no slight effect upon the result. Day after day the struggle was maintained with stern decision. Inhalations of terebene on a sponge wrung out of hot water soothed the air-tubes and made the expectoration somewhat freer, but could not be said to be as useful and beneficial as they are when the larger tubes alone are affected. To whip on the heavily-taxed respiratory centres was the substantial aid medicine could give her: so three grains of carbonate of ammonia, with five drops of tincture of nux vomica, were given, along with five minims of tincture of digitalis, to maintain the right ventricle, every four hours. Such relief did this combination afford that at her own request the medicine was taken every three hours. Fortunately, the stomach gave little or no trouble, the cough only occasionally producing vomiting. The respirations kept about 32 per minute, and the pulse 120. Feelings of deadly faintness came on, but, fortunately, never reached unconsciousness; the right ventricle never faltered, and the pulse never became irregular or intermittent. And so in time the battle was won; and the amount of prostration which remained told how severe the contest had been. When the critical time was over, the pulse fell to 80 and the respirations to 14 per minute, though the medicine was continued, showing how exhausted the vital centres were. The lady said, plaintively, "Oh, my heart is so tired, and my diaphragm does ache!" And she looked it, though the dusky hue was gone, and the features were placid and the countenance calm. Her strength of will pulled her through, aided powerfully by the medicines, both in her opinion and mine. The effect of this combination was well seen in the old gentleman mentioned before, where in twenty hours the respirations fell from 44 in the minute to 32, the respiratory act being deeper and fuller, while the pulse was fuller but not slower. In another case of most extensive emphysema with chronic bronchitis, a steady course of atropine enabled an old gentleman to weather the storm gallantly.

The appearance of the patients at the hospital was as piteous as their tales, and the amount of misery for which these fogs were responsible is something terrible to contemplate. But by pursuing the line of treatment given above great relief was afforded, and by flogging on the staggering centres results were attained which, in my opinion at least, could not have been attained by any other remedial measures. In many cases there was actual lung-congestion and consolidation in the lower portion of the lungs, which added to the respiratory embarrassment no little, and made the demand for stimulants to the respiratory centres all the more imperative. To have given sedatives would have been to paralyze further the already heavily-taxed centres of the circulation and respiration. The patients would go to sleep fast enough if their breathing could be maintained without voluntary effort. In the lady mentioned above, exhaustion would bring on a sleep from which she was soon awakened with an attack of dyspnœa. In sleep the voluntary efforts cease, and before long the blood becomes so charged with carbonic acid that the respiratory centre is roused, and repeated violent explosions of it set all the muscles of respiration into energetic and rapid action, and the blood is once more fairly depurated. This is the explanation of the violent respiratory efforts by which the sleep is fitfully broken. It is of the utmost importance, for the proper and successful treatment of embarrassed respiration, to comprehend the condition and its requirements, and to realize the effects of certain agents upon the respiratory centres. They can be flogged by certain agents, just as the heart can when the right ventricle is yielding under the demand upon it. And not only are these agents to be pushed freely at the time of trial, but they should be continued for some time after the crisis is past, in order to secure the patient against attacks of syncope, which otherwise may come on and endanger the patient's existence. Feelings of sickening faintness occurred repeatedly, with that tired heart and aching diaphragm, but some sal-volatile or brandy kept syncope away. Of course, where the temperature is not high there is no degeneration of the heart-fibre, as follows sustained pyrexia; rather there was that failure of the right ventricle which follows over-strain from effort. But this temporary failure may threaten life, and it is well to avoid it.

The treatment of acute bronchitis tests the practitioner's moral courage as well as his knowledge of his profession. If his will falters or he loses his head, it is all over. In the first case he will do nothing, or practically nothing, and allows the patient to sink; in the latter case he becomes positively dangerous, and prescribes the wrong agent. No timid man will ever become an advanced therapeutist. A man must have the courage of his convictions in moments of emergency, and assume the responsibility of energetic action. The hopefulness which animates the doctor communicates itself to the patient and inspires confidence. A weak-willed doctor is sufficient to palsy the little power left in times of acute trial; whereas an energetic, determined doctor lends an increment of courage to his patients. The varied results of experience of certain remedial agents are, doubtless, to some extent due to the confidence with which they are prescribed and the manner of the man in prescribing them. A bold confidence in the agents employed tells upon the patient and intensifies the effects. The patient fully believes the medicine will do good, and feels all the better for it. The intelligence of the patient is also a factor. The lady mentioned above knew and realized how her respiration and her heart had been improved by a long course of the agents which were employed in the acute condition, and felt assured they would exercise a like influence for good when pushed; and the result justified her confidence. Few things are more deeply interesting than to see an animal whose respiration has been paralyzed by a toxic agent beginning to breathe more freely when the antagonistic agent has been administered; but of more thrilling interest still is it to note how the respiratory centres in a fellow-creature when being palsied by the demand of acute disease will respond to the stimulant and carry on the battle of life with renewed energy. The effect is not only excellent upon the patient, but it adds to the practitioner's confidence in the agents employed, and strengthens his faith, which is apt to be weakened and sapped by the sceptical indifference exhibited around him. The chilling effect of a moral iceberg is hostile to the growth of ardent therapeutic belief; doubt is contagious; disbelief weakens the faith of others. One man says he gets no good from the line of treatment about which another is enthusiastic. But how did he try it? That is the question. If he tried it in doubting, hesitating half-belief, probably he tried it either in a hopeless case or in insufficient doses, and then throws discredit on the agent, as the bad workman blames his tools.

It is very important, too, in cases of lung-embarrassment to compare the ratio of the respirations to the pulse. Whenever the respiration is accelerated out of proportion to the increase of the pulse-rate, mischief is indicated as clearly as it is by percussion. This is of much importance in private practice, where the disturbance occasioned by examining the lungs at the back is often very distressing to the patient. As long as the normal proportion—about one to four—is maintained, congestion is little to be feared; but if the ratio of the respiration mounts up, then it is necessary to examine the patient to make sure about it, and more energetic treatment is also thereby indicated. When the pulse mounts, it indicates over-taxation of the right ventricle. Quietly to count the number of the respirations and the pulse-rate, watch in hand, will often save a great deal of unnecessary examination, verbal and other.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, January 28, 1880, Dr. Albert H. Smith, President of the Society, in the chair.

Dr. Henry H. Smith read his address upon retiring from the office of president at the end of three years' term of service, taking for his subject "The Advantages Attainable by such an Organization as the Philadelphia County Medical Society" (see page 229). A series of resolutions, offered by Dr. Benjamin Lee, expressive of the sense of obligation felt towards Dr. Smith by the members (the present prosperous condition of the Society having been largely favored by his judicious and faithful administration), and thanking him for his address, were unanimously adopted.

Dr. Charles B. Nancrede made some remarks communicating some original observations on the "Anatomy and Functions of the Ankle and Tibio-Fibular Joints" (see page 316).

Dr. Albert G. Heyl exhibited a picture of the fundus oculi of a diabetic patient, representing the condition of retinal lipæmia, and made some remarks upon the case.

Dr. Nancrede said that he had examined the case, and confirmed Dr. Heyl's remarks in regard to the rarity of the condition and the difficulty in detecting the retinal vessels. The difference in color between the fundus and the vessels was so slight that the vessels were invisible except when looked at very obliquely. He never had experienced so much trouble in seeing the vessels in any previous case.

Dr. Risley had also noticed a peculiarity in the case: the color of the eye-ground was yellowish red,—very different from the normal retina.

Dr. Heyl said that he did not lay any stress upon this last point; though he had noticed it, yet he was not satisfied with it. The fundus was undoubtedly quite light in color; but the patient had also very light hair and a fair skin, and in such cases the choroid is deficient in color and the eye-ground pale. He was, therefore, not quite sure of its value as a symptom in this case.

It is noticed in the picture that there is no distinction between the arteries and the veins; and it was precisely so in the patient. It was only by adopting the expedient of slightly rotating the ophthalmoscope that he was able to differentiate between these vessels, the veins being a little darker than the arteries. The picture represents the condition exactly.

Dr. John B. Roberts exhibited for Messrs. Snowden & Brother, surgical instrument manufacturers, a cheap modification of Camman's double stethoscope, made entirely of caoutchouc, and well adapted for clinical use in auscultation.

Dr. M. O'Hara spoke of two cases under his care of blood-poisoning, or quasi-diphtheria. These two children, of one family, were attacked in very much the same manner: they had very sore throat, with rigors and high fever, the cases having a strong likeness to scarlet fever; but the eruption was wanting. He attributed the sickness to some unfavorable atmospheric conditions. He had also a case of rheumatism under treatment which was covered with an erythematous eruption.

Dr. Henry H. Smith referred to the presence of a few cases of smallpox in the weekly death returns from the Health Office, and said that there was a wide-spread fear of an epidemic. He thought the matter greatly exaggerated, and had discouraged revaccination among his patients.

A general discussion followed, in which some scattered cases were reported by Drs. Packard, Atkinson, O'Hara, Dunmire, Willard, Baldwin, J. H. Taylor, Blackwood, and others; but the general sentiment expressed was that, while a few cases certainly existed in different parts of the city, there was no immediate cause to fear an epidemic.

Dr. Welch, in reply to a question, said that the entire number of cases occurring since last November, when the smallpox reappeared in the city after an immunity of four years, was only eighty during two months, and there had been only three or four deaths in the Municipal Hospital.

Dr. Woodbury offered a resolution thanking the Board of Health for the enlightened policy pursued and the diligence exhibited in the prompt removal of patients to the Municipal Hospital, and in the employment of efficient means of disinfection, and stating that the Philadelphia County Medical Society cordially seconded their efforts to avert the threatened epidemic of smallpox, similar to that which prevailed in Philadelphia in 1870 and 1871.

Action upon this resolution was postponed for one month.

REVIEWS AND BOOK NOTICES.

FREY ON THE MICROSCOPE AND MICROSCOPICAL TECHNOLOGY.

A second edition of this standard work has just been issued by William Wood & Co., of New York, translated and edited by George R. Cutter, M.D.

A few words in review of a work like this seem due, because this second edition is much superior to the first. The entire edition has been rewritten, and many new illustrations have been introduced. The size of the page has been increased, and the type is larger and the ink better, thus making the second edition much more easily read than the first. Indeed, the cuts are models in this kind of illustration, because of their clearness and good printing.

All American microscopists are familiar with this work, and doubtless find it indispensable in their investigations. It contains full instructions on the optical and mechanical construction of microscopes, and also of the essential tools and accessories with which to work. This is important, because many reputed workers look down microscope-tubes innocent of all real knowledge of the means which render such precise vision possible. Then, again, its technology is fuller and more comprehensive than will be found elsewhere accessible to most students, and this edition brings this part of the subject fully up to the present time in regard to animal tissues.

Another primary advantage of Frey's work is, that after the technology of the normal tissues is fully given, with brief but clear descriptions, the pathological degenerations of the same tissues follow, while everything is held in recollection. This one feature gives Frey's work supreme importance, and it is the true plan to be followed by all students and teachers of histology, whether in the laboratory or in the lecture-room. Histology divorced from pathology is but a half-uttered thought, and gives the student no adequate conception of the possibilities of form or function of a single elementary tissue in the body.

Important new matter on staining tissues has been introduced in this edition. Arnold's researches on the formation and structure of newly-forming blood-vessels, the recent views on bacteria and allied forms, Loven's discovery and demonstration of the lymphatics of the stomach, and matter of interest on spectrum analysis with the microscope, are a few of the subjects which give added value to the second edition. The chapter on the histology of the eye has been written anew, and much recent matter added. Indeed, the beautiful dress which this second edition now wears is extremely creditable to its American publishers and editor.

J. GIBBONS HUNT, M.D.

A PRACTICAL TREATISE ON NERVOUS EXHAUSTION. By GEORGE M. BEARD, M.D. New York, William Wood & Co., 1880.

After having read well into this book, the adage "Behold how great a fire a small spark kindleth" was "borne in upon us," as that sturdy old prophet of plain speaking, George Fox, would have said. When we had reached the end of the book, the great smoke that rubbish-burning makes followed in our thought, as the moral does a fable.

Nervous exhaustion is, in all seriousness, frequent enough, and frightful enough in its consequences; but the two hundred pages of the present brochure condensed into fifteen would give much more aid to the average practitioner than they now will: the author ought to be the winnower of the grain.

The tone of the book is especially distasteful to us, and we suppose will be to every well-read physician. The continued lamentation over the paucity of the literature of the subject, the wonderment that the profession has so universally neglected such an important and frequent condition or disease as nervous exhaustion, may be well suited to make lay readers believe that the author of the book is possessed of a pearl of great price in his special knowledge, and to apply for the benefits of such knowledge; but most assuredly such absurdities are not adapted to enhance the author's professional reputation.

After closing the first chapter, we were most strongly reminded of an incident in the boyhood of a friend, whose guardian was addicted to long prayers and a rather loose practice. One summer's day, as family prayers were going on with even more than usual fervor and prolixity, a huge goat put his head in the window and said, "Bah!" much to the delight of the unregenerate youngsters.

We have read nearly all of the book, and have failed to find other than the common property of the profession, unless it be in the specialty of barbarous Greek polysyllables: witness the classification of morbid fears,—astraphobia, topophobia, agoraphobia, claustrophobia, anthrophobia, gynephobia, pathophobia, pantaphobia, photophobia, mysophobia. Bah!

THE HYPODERMIC INJECTION OF MORPHIA. By H. H. KANE, M.D. New York, Charles L. Bedmingham & Co., 1880.

Dr. Kane laid the foundation for the present volume by sending circular letters asking some seven questions to a very large number of physicians in America and England. He received a large number of replies, containing much unrecorded information, which gives much freshness to his discussion of a somewhat hackneyed subject. From previous medical publications and the answers to his queries he has been able to collect thirty-seven cases in which death has been attributed to the hypodermic use of the alkaloid.

Whilst it is probable that in some of these cases the death was the result of natural causes, it is certain that but a tithe of the fatal morphia accidents have come to the light. Dr. Kane believes that when serious results have been produced by very minute doses of morphia, the injection has entered the veins *en masse*. To prevent such rapid absorption, he advises that a tape or strap be bound tightly around the limb, so that if untoward symptoms come on it can be at once tightened and stop the carrying of the morphia into the veins. Some reported cases show that this manner of prevention is of value; but we do not believe in practice it will be utilized. Most patients would want to know why the band was put on; and the explanation might not always be soothing to irritated nerves.

Dr. Kane has performed his self-allotted task well, and his brochure of three hundred and fifty pages deserves a position among the books of permanent usefulness. To analyze it more fully would require more space than we have at disposal, and we leave it with well-deserved commendation.

SYLLABUS OF A COURSE OF LECTURES ON PHYSIOLOGY. By J. BURDON SANDERSON, M.D., etc. Second Edition. Philadelphia, Lindsay & Blakiston, 1880. Pp. 143.

This little book is an admirable résumé of the latest and most recondite expressions of physiology. The language is terse, and the descriptions are graphic, while at the same time strictly technical. The work is valuable as a collection of the views of a distinguished writer and investigator, and as such may be read with pleasure by those who have finished their collegiate studies. Its use will be, we fear, rather limited in this country, since the methods of study assumed to exist are widely different from those usually employed in our colleges. H. A.

HEADACHES. By WILLIAM HENRY DAY, M.D. Third Edition. Philadelphia, Lindsay & Blakiston, 1880.

It is perhaps enough to say of this book that it fairly epitomizes the knowledge of the profession concerning the important subject of which it treats, and that but few practitioners will rise from its perusal without feeling that they have gained something from it.

LESSONS IN LARYNGOSCOPY AND RHINOSCOPY, ETC. By PROSSER JAMES, M.D. Third Edition, pp. 160, 5 plates. Philadelphia, Lindsay & Blakiston.

This little manual, judging from the number of editions it has passed through, has become a favorite with the medical public. It gives, in a succinct form, the approved methods of examination and treatment of diseases of the nose, throat, and larynx. The plan pursued is one well adapted to the needs of the general practitioner who wisely acknowledges that the outfit for travelling the special ways mapped out in treating the affections of these obscure regions must be secured by separate and distinct training, and not by the application to these regions of the routine treatment for other portions of the body. The colored plates are fair, but have been overrated in their degree of accuracy of drawing and naturalness of coloring.

GLEANINGS FROM EXCHANGES.

INFLAMMATIONS OF THE PUDENDUM.—In a clinical lecture "On some Inflammations of the Pudendum" (*Med. Times and Gaz.*, February 21), Dr. Mathews Duncan speaks of the vulvitis of childhood, characterized by slight swelling, redness, and an impetiginous eruption or red papular spotting; a laudable, rather viscid pus covers the whole surface. It is never complicated with vaginitis. It used to be thought the result of sexual violence, but is not by any means always so. It is commonly the result of cold, and is generally easily cured. Dirt and worms are not, as is often supposed, causes. Dr. Duncan has never seen a case which could be attributed to worms. Inflammation of the duct of Cowper's gland and cyst of this duct are difficult to distinguish from abscess of the posterior part of the labium. But in this case there is swelling in the space between the posterior part of the labium and the tuber ischii. The latter is often due to cold. Gonorrhœa of the duct occasionally occurs, and may be treated by passing a probe or by injecting solution of nitrate of silver. Pruritus vulvæ of old age and of diabetes is often agonizing. The latter is due not only to the local action of the sugar-loaded urine, but to the condition of the nervous system in general. Herpes zoster of other parts of the body is not an uncommon accompaniment. Lotions of oxide of zinc and hydrocyanic acid are useful, also black wash. Lotions of poppy-heads or muriate of morphia are also used, and belladonna may be added to them. Sometimes a fomentation of tobacco infusion with borax is comforting. Painting with weak solution of nitrate of silver is sometimes valuable. Dabbing with concentrated solution of boracic acid is worth mentioning. The ointments most used are those of boracic acid, bismuth, zinc, and hydrocyanic acid. Powders of starch, chalk, and bismuth are sometimes useful.

EXTIRPATION OF THE KIDNEYS.—From a leading article in the *British Medical Journal* of January 31, we learn that at present the methodical application of the antiseptic treatment has enabled Martin the younger to obtain new results in cases of movable kidney. The kidney can now be removed, with good expectation of success in suitable cases, through the abdominal cavity. The question is, Which is the better route of removal, the extra-peritoneal from the lumbar region, or the intra-peritoneal from the linea alba? Quite recently Martin has successfully removed a renal tumor by laparotomy, while Zweifel has extirpated a sound kidney with success according to the old method of Simon, on account of a fistulous communication between the ureter and the uterus. Czerny has twice attempted nephrotomy, once in a case of large cancer of the kidney, through the abdominal cavity, and in the other case, one of pyonephrosis, by the lumbar operation. The second case ended in cure. Zweifel's case, referred to above, of uretro-uterine fistula cured by extirpation of the kidney, occurred in a young woman as a result of labor. It is one of eight similar cases on record.

COSTER'S PASTE FOR RINGWORM OF THE HEAD.—℞ Iodinii, ʒij; olei picis, ℥j. Mix. Apply with a stiff brush. It forms a cake, which separates at the end of a week. The application may have to be renewed at the end of a week. It is effectual without blistering.

POISONING BY OIL OF TANSY.—Dr. George Jewett writes to the *Boston Medical and Surgical Journal*, March 4, calling attention to the poisonous properties of the *tanacetum vulgare*, or common garden tansy, which, together with its oil, has a popular reputation in domestic practice as an emmenagogue and as a means of procuring abortion. He gives eight cases of poisoning from this oil. In the first of these a woman took two doses, of fifteen drops and a drachm respectively, of the oil, two hours apart, with a meal intervening. Fifteen minutes later, convulsions occurred, respiration was apparently suspended, followed instantly by complete and general cyanosis. The pupils were widely dilated, pulse 120, respiration imperfect, 35 per minute. Emetics, followed by internal and external stimulation, restored the patient, and convalescence was established by the next day. In a second case death occurred from the ingestion of a teaspoonful of the oil of tansy. The fatal dose has not been ascertained. Death has also ensued from the use of a decoction of the leaves. Used as a vaginal injection in one case, abortion was produced, apparently from the local irritative effect. Dr. Jewett thinks that tansy, internally administered, has no specific influence on the uterus. No antidote to the poison has yet been found: the proper treatment seems to be the removal of the noxious element by apomorphia or some other emetic, and the administration of stimulants.

EAR-SNEEZING AND EAR-GIDDINESS.—At a recent meeting of the Medical Society of London (*Lancet*, February 14) a paper was read by Dr. Ed. Woakes on ear-sneezing and ear-giddiness. He alluded to a case of the kind where the symptoms were traced to a plug of cerumen, which produced irritation of the vagus, distributed to the external auditory canal, whence the impression was propagated to the lungs through the pulmonary branches of this nerve. The series of reflex events comprised yawning, through implication of the third division of the fifth, and simultaneously implication of the heart, shown by præcardial distress, arising from impressions conveyed to the heart along the cardiac branches of the vagus. Then sneezing followed, from reflex implication of the spinal nerves of respiration, due to the act of yawning. Under the head of "ear-giddiness" Dr. Woakes described a new symptom. Superficial congestion of the hands and forearms was described as associated with it in severe cases. This is probably due to impressions passing from the labyrinth along the vasomotor nerve of the vertebral artery to the inferior cervical ganglion, thence passing, as waves of vessel-dilatation, to the brachial artery, supplied by nerves from the same ganglion. Two factors were indicated as requisite to produce giddiness: direct pressure upon the labyrinth from diseases of the middle ear, and vessel-dilating waves, usually proceeding from the ganglion along the vertebral artery. These two factors, being variable in their actions, were considered as capable of explaining the uncertain and irregular occurrence of giddiness in the subjects of it. Dr. Lauder Brunton said that Czermak's experiments of pressure on the vagus definitely established the fact that thoracic oppression was connected with that nerve. Irritation of the vagus produced slowing of the pulse and a feeling well described by the German word "beklemmung." He agreed with Dr. Woakes that in cases of vertigo connected with indigestion the giddiness was not due to the stomach alone.

TREATMENT OF SALIVARY FISTULA.—Mr. Henry Morris gives the case of a man wounded in the right cheek, in whom a sinus, whence saliva oozed, remained on the face, and the mouth felt dry on that side. The mucous membrane not being injured, Mr. Morris thought the parotid duct might only be partially severed, and passing a fine catgut bougie into the duct, through the buccal orifice, it appeared at the wound. The proximal part of the duct was then sought for, and the bougie guided into it. The case did well, and Mr. Morris remarked that this method of treating salivary fistula afforded encouraging results by reopening the natural passage, and, if such could not be effected, the duct might be opened into the mouth. If the orifice of the duct, which is its smallest part, was closed, it might be reopened.—Clinical Society, *Lancet*, February 21.

SUTURE OF THE DIVIDED MEDIAN NERVE.—Mr. Hulke (Clinical Society, *Lancet*, February 21) attended a patient who had by accident severed the median nerve and artery above the wrist. The artery was secured by torsion. Adhesion of the divided ends of the nerve was hoped for, but suppuration took place, and when the wound healed the anæsthesia produced by section of the nerve persisted. Esmarch's bandage being applied, the wound was laid open, and the bulbous nerve-ends, which lay three-fourths of an inch apart, were exposed. About one-eighth of an inch was cut off each of the ends, which were then approximated by flexing the hand and by slight stretching of the proximal end of the nerve. Fine sutures were used to secure the divided ends, and a specially-devised splint employed to obtain rest. After three weeks passive movement was employed at the wrist, and about four weeks after the operation sensibility had returned to nearly all the parts supplied by the nerve, except the terminal phalanges of the index and middle fingers. The case afforded a hint also as to similarly joining severed tendons, for before the operation the long flexor tendons were almost functionless. The dissection set them free from the scar tissue, and the subsequently flexed position of the wrist favored their union, so that eventually they acted well. The case showed the propriety of securing severed nerves in all fresh wounds. Were this done immediately, better results might be anticipated.

A NEW THEORY OF THE ACTION OF MERCURY.—In a thesis on this subject, Dr. S. V. Clevinger (*Chicago Medical Gazette*, 1880, p. 81) regards the action of mercury upon the system as in no small part mechanical. Blue mass contains metallic mercury in a finely divided form, examinations under a low magnifying power showing not less than 200,000 globules in a gramme. Dr. Curtis has estimated the diameter of these globules at from $\frac{1}{6000}$ inch to infinitely smaller. Dr. Carpenter has asserted that metallic mercury finely divided can be absorbed by the blood-vessels from the alimentary canal. Dr. Clevinger suggests that these globules drop into the gland tubules and force out the contents of the latter, thus causing a mechanical sweeping out of the glands with consequent restoration of normal secretion. He considers the specific action of mercury upon the salivary glands and its accumulation in the jaws causing caries as explainable by mechanical laws. Mercury, according to Dr. Clevinger, is not a tonic; but if it increases secretion, removes obstructions, and sets the corpuscular manufactories in order, as it does the biliary, it induces tonicity, as the bromides induce sleep. Mercury in poisonous amounts produces ulceration, neuralgic pains, paralysis agitans, epilepsy, often melancholia. Ischæmic softenings of cerebral tissue, infarctus, mania, aphasia, even hemorrhages, have, according to Dr. Clevinger, been caused by mercury, these hemorrhages having often heretofore been ascribed to syphilis. The "specific" action of mercury in syphilis cannot as yet be exactly explained. The disposition of the virus being to centralize itself upon and destroy certain areas, it seems likely that the metal may, by attacking such weakened points, not only break them down, but prevent the static degeneration necessary for the ulcerative processes. This, with the antagonism the metal has for occlusion anywhere, except what it induces itself in great doses, would suffice as a tentative view until we demonstrate exactly the cause of both the disease and its cure. Syphilis in the blood may not manifest itself if sufficient globules are chasing it from forming nuclei. Dr. Clevinger continues at some length, discussing the action of the various compounds of mercury and detailing a number of interesting experiments. The thesis, though not arranged in a perfectly clear and intelligible manner, contains much curious information.

MISCELLANY.

Meeting of the Alumni Association of the Jefferson Medical College, March 12, 1880—Presentation of a Bust of Dr. Sims.—A bust in bronze of J. Marion Sims, M.D., LL.D., was presented to the Alumni Association by the surgical staff of the college hospital. Dr. Levis represented his colleagues of the staff in making the presentation. He referred historically to Dr. Sims's distinguished professional career since his graduation in 1835. His early professional life, which was spent in the South, was noted for his original observations and discoveries. In the city of New York he found a wider field for his talents, and there his work has contributed more than that of any other surgeon to the elevation of gynæcology to its present high position as an advanced specialty. There he founded the Woman's Hospital, and acquired a large and lucrative practice.

Dr. Sims has resided and practised in several of the European capitals, and has received distinguished honors and orders from a number of sovereigns. The bust was made in Paris, and is an admirable likeness, as well as a fine specimen of art. It was received by Professor Gross, President of the Alumni Association, who expressed his admiration of Dr. Sims and presented his professional course as a subject for emulation and imitation by the young men of the Association.

We understand that the bust has been presented by the Alumni to the Board of Trustees of the Jefferson College Hospital, and is to be placed in the hall of the hospital.

Forgetfulness of Personal Identity.—An example came recently under my notice illustrating a derangement of mind in one particular, whereas in other respects the condition of the person was perfectly sound, mentally and physically. He is thirty-five years old, a watchmaker by trade, and an old resident of Cleveland. He has always enjoyed good health, is bright and active intellectually, an original mechanical genius in his way, of strict business integrity,—in short, one of our best citizens.

Almost a year ago he suddenly disappeared. Six months had elapsed when his family first obtained a clue to his movements. He had a child, a daughter six years of age, whom he loved with a most ardent affection. A note was received by her, brief, without date or other index to show his identity; even the post-mark was a blotch of ink that precluded every hope of ascertaining the place of mailing. The missive simply "congratulated her upon her approaching birthday, and regretted that he had no presents to send her." There was no signature, though the address, to her name, number and street, city, county, and State, was properly made and without inaccuracy.

Hope was revived that he was alive somewhere. By means of extensive advertising, the missing man was at length discovered in one of the western counties of Ohio, an inmate of a public institution. He had come thither, having left Cleveland by a night train and ridden ninety miles. Leaving the cars, he repaired to the nearest hotel. In reply to inquiries, he stated that he had lost the knowledge of his own identity; he could not tell his name, or whence he came, or how he came thither; he had no recollections as to where he lived, or of his family, if he had any. He seemed to be in a lost state of mind and full of anxiety,—all appeared strange to him. From his gentlemanly appearance, the landlord kindly kept him a few days. One evening he attended a temperance lecture, and became somewhat excited; he rushed forth into a neighboring saloon and smashed in the windows and tore around generally, was arrested, and the court sentenced him to the county infirmary. On political questions of the day, or business matters generally, he would converse rationally and intelligently, no one suspecting the least trouble with his faculties. While in the infirmary he would dismantle a watch or clock, inspect its parts minutely, clean them, and put them all together again with the utmost nicety and precision. But for the entire year that he was there he never uttered his own name, or gave any idea of his residence or identity.

When at last a most intimate friend called to take him home to his family and friends, he seemed strangely puzzled. He could not recognize the name; said he had never before heard it. When his wife's name was mentioned, he could not think who it was, and said he had no knowledge of anything that had passed, and did not know how he came there.

Upon arriving at home he recognized no one, and could not mention the name of a single individual. He would go about the streets and into stores and frequented places with as much regularity and system as ever. But his skill in *dissecting* a watch and repairing seems to be heightened, and his sense of touch and accuracy in adjusting its parts seems to have acquired a most wonderful and miraculous perfection.—A. G. SPRINGSTEEN, M.D., *Medical Tribune*, February 15.

PROOF OF DEATH.—Those timid beings who are haunted by apprehensions of being buried alive, and who make testamentary provisions against such a contingency, may now take courage, for science has supplied an infallible means of determining whether or not the vital spark has quitted the mortal frame. Electricity enables us to distinguish with absolute certainty between life and death. For two or three hours after the stoppage of the heart, the whole of the muscles of the body have completely lost their electric excitability. When stimulated by electricity they no longer contract. If, then, when faradism is applied to the muscles of the limbs and trunk, say five or six hours after supposed death, there be no contractile response, it may be certified beyond all doubt that death has taken place, for no faint nor trance nor coma, however deep, can prevent the manifestation of electric muscular contractility. Here there is no possibility of mistake, as there certainly was when the old tests were employed. Muscular contractility, under the faradic stimulus, disappears gradually after death; it is instantly diminished, but is only finally extinguished in about three hours; and hence Dr. Hughes Bennett has suggested that electricity may sometimes be of use in medico-legal investigations, by affording evidence as to the time of death.—*Medical Press and Circular*.

A NEW DISEASE.—A new fever has been discovered to occur in Japan. It is a miasmatic, non-contagious, continued fever, resembling anthrax somewhat in its lesions.

THE Grand Walker Prize of one thousand dollars has been awarded by the Committee of the Boston Society of Natural History to Professor Joseph Leidy, of the University of Pennsylvania, for his researches in natural history. This prize has been given only once before,—then to Alexander Agassiz, for his beautiful studies of echinoderms.

IN a recent number of the *New York Medical Gazette* occurs the following paragraph, which is, of course, untrue. Whether it is the more annoying to Professor Wallace or to Professor Goodell would, perhaps, be hard to decide. At any rate, it is unjustifiable:

> "JEFFERSON MEDICAL COLLEGE.—The probability is that, in consequence of failing health, Professor Ellerslie Wallace will soon resign his chair. In the event of this taking place, it is generally believed that it will be offered to and accepted by Professor William Goodell, of the University of Pennsylvania"

SEVEN internes of one of the Paris hospitals fell victims to diphtheria during the past year.

A LABORER'S WIFE in England was recently delivered of double twins. All four children died, and the mother, at date of the report, was hardly expected to live.

IN one of the finest hospitals in New York it is stated that the kitchen odors can be smelt all over the wards. In another similar institution the smell of chloroform is perceptible in the halls and other places during an operation.

DR. WILLIAM THOMSON has been elected by the Trustees of the Jefferson Medical College Honorary Professor of Ophthalmology.

NOTES AND QUERIES.

TREATMENT OF DIPHTHERIA.

DURING the past two winters I have treated over forty cases of diphtheria in all its forms. Eight were severe cases of the croupal form, two of the nasal. I begin with calomel, and give two or three grains every two hours, until the bowels are moved green and slimy; then the fever generally subsides. Then simple solutions of pot. chloras. and tinct. ferri chlor. are given alternately every hour while the severe symptoms continue; then lengthen the time. *Always* allow the patients to sleep at night without waking for medicine, but carefully watch and give when they do. In two cases alum was given, as an emetic, where the patients were choking with croup. Diet, mostly milk and pop-corn.

GEORGE ROBERTS, M.D.

BAZILE MILLS, NEBRASKA.

PHILADELPHIA, March 19, 1880.

PROFESSOR H. C. WOOD,
Editor *Medical Times*:

In the issue of the *Medical Times* of January 31, 1880, Dr. Keating calls attention to and recommends the use of wine of ipecac in the vomiting of pregnancy. Allow me to add a case in point to his. About a year ago I derived marked and immediate benefit, in a case of extreme nausea (without vomiting) during pregnancy, from the administration of half-grain doses of powdered ipecac

Very respectfully yours,
JOSEPH F. EDWARDS.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 6 TO MARCH 20, 1880.

MCELDERRY, H., CAPTAIN AND ASSISTANT-SURGEON.—Having reported in person at these Headquarters, assigned to duty at camp at White River, Col. S. O. 19, Department of the Platte, March 5, 1880.

WHITE, R. H., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for six months, with permission to go beyond sea. S. O. 55, A. G. O., March 11, 1880.

BROWN, P. R., CAPTAIN AND ASSISTANT-SURGEON.—Having reported in person at these Headquarters, assigned to duty at Fort Hamilton, New York Harbor. S. O. 39, Department of the East, March 11, 1880.

MOSELEY, E. B., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, to take effect on arrival of Assistant-Surgeon McElderry at camp at White River, Col. S. O. 19, c. s., Department of the Platte.

FINLEY, J. A., CAPTAIN AND ASSISTANT SURGEON.—Having reported in person at these Headquarters, assigned to duty at Fort Adams, R.I. S. O. 41, Department of the East, March 15, 1880.

SLOAN, WILLIAM J., COLONEL AND SURGEON, Medical Director, Department of Dakota, died at St. Paul, Minn., March 17, 1880.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, APRIL 10, 1880.

ORIGINAL COMMUNICATIONS.

A CONTRIBUTION TO THE HISTORY OF INFLUENZA—A STUDY OF A SERIES OF CASES.

BY JOHN GUITÉRAS, M.D., AND J. WILLIAM WHITE, M.D.

MR. JOHN HUXHAM, of Plymouth, England, in his "Observations on the Air and Epidemical Diseases,"[*] writing of the month of February, 1733, gives the following succinct and interesting description of a "distemper" which at that time affected multitudes of people in his neighborhood: "The disorder began at first with a slight shivering; this was presently followed by a transient erratic heat and headache, and a violent and troublesome sneezing; then the back and lungs were seized with flying pains, which sometimes attacked the heart likewise, and though they did not long remain there yet were very troublesome, being greatly irritated by the violent cough which accompanied the disorder, in the fits of which a great quantity of a thin, sharp mucus was thrown out from the nose and mouth. These complaints were like those arising from what is called *catching* cold, but presently a slight fever came on, which afterwards grew more violent; the pulse was now very quick, but not in the least hard and tense like that in a pleurisy; nor was the urine remarkably red, but very thick, and inclining to a whitish color; the tongue instead of being dry was thickly covered with a whitish mucus or slime; there was an universal complaint of want of rest and a great giddiness. Several likewise were seized with a most racking pain in the head, often accompanied by a slight delirium. Many were troubled with a *tinnitus aurium*, or singing in the ears; and numbers suffered from violent earaches. The sick were in general very much given to sweat, which, when it broke out of its own accord, was very plentiful, and continued without striking in again, and did often in the space of two or three days wholly carry off the fever. You have here a description of this epidemic disease such as it prevailed hereabouts, attacking every one more or less; but still, considering the great multitude that were seized by it, it was fatal to but few, and that chiefly infants and consumptive old people. It generally went off about the fourth day, leaving behind a troublesome cough, which was very often of long duration, and such a dejection of strength as one would hardly have suspected from the shortness of the time."

The series of cases to which we wish to call attention, and the peculiarities of which we will presently detail, must be considered as typical of this same epidemic disease now called influenza, not one known symptom of that affection being wanting. They have occurred originally in a family returning from Europe to Philadelphia early in January, and have apparently been handed from them to others. For full and accurate accounts of the characteristics of influenza during several epidemics, and as described by many eminent physicians, ancient and modern, we must refer the reader to the various publications on the subject.[†] These descriptions will be found to separate the disease in question from those affections to which it most closely approximates, viz., the winter colds and catarrhs so prevalent at this time of year.

If, however, the symptomatology is alone sufficient to establish this distinction, we find in the etiology a wider gap between the two diseases, and in this connection there are still several problems to be solved. Upon some of these we may aid in throwing light. The series will be found to consist of a number of cases more or less brought in contact, on the one hand, with the remains of an individual who very probably died while convalescing from the disease, and, on the other hand, with several living subjects who came from a point of infection.

Influenza is now prevailing in Europe. We know of its presence in Cadiz, Spain, during the months of January and February, and letters from Paris, written soon after the departure of the persons who seem to have brought the disease here, inform us that there was at that time an epidemic of "la grippe" in that city. A letter from

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[*] Translated from the Latin, vol. i., London, 1758.

[†] "Annals of Influenza in Great Britain" (Sydenham Society's Publication, 1852); Bierner, in Virchow's Handbuch der Speciellen Path. und Ther. (fünf. Band); several contributions by Nonat, Vigla, etc., to Arch. Gén. de Méd. for 1837; article by Gintrac in Nouv. Dict. de Méd. et de Chir.

Dr. Fothergill to the *Philadelphia Medical Times* of March 27 is devoted to the description of an epidemic and very fatal bronchitis existing in London at the time of writing. Though we cannot find that he gives to the disease any other name than "*the fogs*," we believe that he describes an epidemic of influenza.

Did the patients affected in our city contract the disease from the first case, one of the travellers, or did they get it from the remains which were embalmed, brought here, and, after exposure, interred? Further it may be asked, if from the cadaver, was it the source of infection merely as a poison-carrier, a neutral surface upon which the poison rested, or was it as an active agent, a poison-producing surface? In other words, does our local epidemic show the disease to be miasmatic or contagious? If a miasm which loaded the atmosphere of Paris was brought in the coffin and in the clothing of the deceased, the family of the undertaker at whose house the body was changed from one coffin to another, and where it remained more than one day, should have been affected; but we find that they were not. Indeed, from this point of view we cannot understand how the disease has not already taken a foothold upon our shores, when so many things that might be carriers of the miasm are constantly being brought from Europe. It is true that most of the individuals (with these exceptions—see Cases XVII. and XVIII.) who contracted the disease either lived in or visited the house to which the cadaver was transferred, and it is also true that not one of them became the starting-point of local epidemics.

To our minds this only proves that the disease is not very contagious,—a conclusion that we had already arrived at after reading the literature of the subject; and it brings up the question of *degree* of contagiousness, which we think is too much overlooked.

Case XVI. probably, and Case XVIII. certainly, received the disease by contagion. The first was housekeeper to Case VI., and never visited the infected house. She probably contracted the disease from Case VI. However, it may be said that she unpacked the luggage brought from Europe by the latter. But in regard to Case XVIII., who lived in a distant quarter of the city, we must say that he could have contracted the malady in no other way than by his intercourse with Case VI., his physician, who, whilst suffering with the disease, was attending him for some other trouble. As we are going to press we find that the wife of Case XVIII. has contracted the disease, and now has a well-marked case.

As far as can be concluded without the aid of experimental pathology, we must admit from the study of these cases that contagion is one of the channels through which this disease tends to spread.

At the house of the family of Case I. was a concurrence of circumstances favoring both contagion and miasmatic development. The exposure of the cadaver, one patient already affected with the disease, the anxiety and depression of the family,—a powerful predisposing cause,—the baggage just arrived and unpacked, all seem reasons why we may say, though maintaining a theory of contagion, that the house and people in it became both infective and infected. The poison accumulated there and multiplied to such an extent that the agents which are constantly in operation bringing about the destruction of the infecting causes were not sufficient, even in a city where the epidemic is not general, to prevent the spread of the disease.

But what was the starting-point in our cases? Was it a miasm pervading Paris, or was it an organism arising from the sick in Paris? We suppose both: in other words, we believe that influenza belongs in some respects to the class of miasmatic-contagious diseases. The whole subject, however, of the genesis of acute infective diseases is still surrounded with obscurity, malaria indeed being the only one about whose place in the classification there can be no doubt. Leaving this matter for future discussion, we will proceed to a brief general description of the symptoms of influenza, as observed by us in these cases.

Symptoms.—The disease may be ushered in with a chill, but more frequently with *creeps*. Coincidently or closely following there is sore throat, with redness of the mucous membrane, but scarcely any swelling, or, in other cases, uncontrollable sneezing or intense headache. The prostration, which is a marked feature of the disease, may be already apparent, or may develop on the second or third day with the fever. The latter is not high, may be intermittent, and is generally remittent, with evening exacerbations. In some of the stages, but frequently throughout the attack, we have profuse sweating, especially at night. Only in cases which may be called abortive did the sweating assume the character of a critical discharge. At first the pulse is frequent, but always soft and rather small. With the febrile manifestations, two symptoms, which sometimes are present even in the prodromal stage, either make their appearance or become decidedly prominent, viz., prostration and cough. When the first is very marked, the headache intense, and the fever higher than usual, the nervous symptoms concomitant with such a combination of circumstances may give to the case the appearances of serious cerebral disorder, so that Case IV. was for a moment suspected to be one of acute miliary tuberculosis, the sweating and the pulmonary symptoms contributing much to give this impression.

The cough is very peculiar. It is accompanied with well-marked hoarseness. It is paroxysmal, spasmodic, dry, and followed by the expectoration of small quantities of tenacious mucus, seldom tinged with blood. It reminds the observer of the paroxysms of whooping-cough, such as are seen in the adult, where the kinks of coughing are not so apt to be followed by the inspiratory whoop, probably because the respiratory muscles are more under the control of the will than in children. Further, it is the same cough met with in croupous bronchitis and in cases where there is pressure upon the root of the lung. The voice is like that of cases of intrathoracic tumor, hoarse, and becoming exhausted towards the end of the phrase, apparently for want of wind, —an evidence either of pressure on the trachea or of disturbed innervation of the vocal apparatus.

Most of the patients have complained of a sense of suffocation; but it may be said that the dyspnœa and cyanosis, though present, have not been as marked as in other epidemics. Difficulty of deglutition has been present in three cases; vomiting in the majority of them. All have had thoracic pains. These appear early with the cough, and last, with diminishing violence, throughout the attack. They consist of a sense of soreness behind the sternum, and sharp pains darting along the sides of the chest, by no means exclusively upon the side affected with the so-called pneumonia of previous writers. We leave to our cases a further description of the course of the disease.

Case I.—The first of these cases occurred in London on December 12, 1879. Mr. W., who was travelling on account of an old cerebral trouble, complained of vague, shooting pains in his chest. There were no physical signs of disease discoverable. The pains seemed to yield to the external application of mustard. Three days later, in the absence of further symptoms, he went to Paris, apparently well bodily, but in a state of profound mental depression. Thirty-six hours after his arrival in Paris an extensive pleural effusion of the right side was discovered, extending from the base of the lung to the spine of the scapula. This came on suddenly, a careful examination about ten hours previously having failed to demonstrate any alteration of normal conditions. It was attended with almost no fever, the pulse ranging from 85 to 90, and being soft and compressible, occasionally intermittent; the temperature 98.5° to 99°; respirations, 28 to 32.

A blister was applied, and a decoction of *triticum densleonis* and bicarbonate of sodium were administered, and in a few days nearly all physical signs had disappeared, and the patient was up and seemingly convalescent. A day or two later, however, the mental depression recurring, he returned to bed, and gradually developed febrile symptoms, which ultimately proved to be due to a progressive encephalo-meningitis, that resulted fatally on December 30. At the time of relapse, however, the condition of the right side of his chest was as follows, Dr. Pidoux and Dr. Guéneau de Mussy being in consultation. There was dulness over the inferior portion of the right lung, not arising above two inches from the edge of the chest. In this region the respiratory murmur was weak, remote, and softly blowing,—symptoms which were attributed to the remains of a pleural effusion at this point. Above, subcrepitant rhonchus was heard over the lower half of the lung, but moist, rather large, and conveying the idea of a simple congestion. Some rough coarse sounds, rather superficial, seemed referable to the presence of exudative membrane in the pleura.

These signs gradually decreased as the central trouble progressed, yet subjective symptoms became prominent, and troublesome, severe pain in the *left* side of the breast was complained of for hours, although nothing to indicate its cause could be found. Until the fever due to the encephalitis came on, the pulse was soft, intermittent, and variable in frequency, often running down to 65 or 60 a minute. There was almost no cough, and no expectoration, during the entire case. Sweating was so profuse as to be one of the chief sources of annoyance to the patient, a few moments' sleep being followed by saturation of the underclothing and even of the bedding.

The daughter, son, and nephew of Mr. W., who had been travelling with him, returned to their homes in this city immediately after his death, leaving Liverpool on January 3. During the voyage the former suffered almost continuously with headache, and had occasional cough. The others seemed to be well.

Case II.—On January 19 the son developed a pharyngitis which at first seemed to be of a rheumatic character, the pain in swallowing being out of all proportion to the inflammatory appearances, which were very slight. Within a day or two, violent headache, intense earache, and an annoying cough made their appearance, apparently by extension of the irritation along the Eustachian tubes and into the frontal and mastoid sinuses and the larynx. These symptoms persisted for a week or more, pain in the chest and excessive sweating being superadded. The physical signs in this case from first to last consisted in a feebleness or almost absence of respiratory murmur at the base of the right lung and increased vocal fremitus in the same region, not attended with râles or with diminution of percussion-resonance. The sputa throughout were profuse, but bronchial. The case was treated at first with bromide of potassium, ipecac, and small doses of iodide and citrate of potassium, and with cups and mustard locally. Later, strychnia, aromatic sulphuric acid, and oil of eucalyptus were given freely. Convalescence was interrupted by a relapse. The patient was not able to leave the house for five or six weeks.

Case III.—On February 8, Mrs. ——, who had been frequently visiting the patient whose case has just been described, was seized with a feeling of weakness and depression, followed by headache, and soon after by an irritating, painful cough, which persisted for days, and was accompanied by a bronchitis, and at one time by slight congestion of the base of one lung.

The sweating in this case was marked, though not so excessive. The softness of the pulse was also very noticeable.

Case IV.—Miss ——, sister of Case II., was attacked on February 10 with severe headache, accompanied with vertigo. This was followed soon after by fever, at first moderate in degree, afterwards higher, but attended, as in the previous cases, with a soft, compressible pulse, and with profuse sweating. The physical signs consisted of faint breathing and pectoriloquy in the earlier stages. Later there seemed to be almost absolute consolidation of one lung; and still later, while this condition was disappearing, the other lung became similarly affected: the period of consolidation in each case was followed by some days during which there were marked coarse crepitant or subcrepitant râles. There was incessant cough, with nausea and persistent vomiting, the latter being so unyielding as to necessitate the use of rectal injections of milk, egg, and brandy, for forty-eight hours, as the sole means of nourishing the patient. At no time was there a pneumonic sputum. The expectoration was scanty, always frothy, and unmistakably bronchial in character.

Case V.—Miss ——, another sister, the one who had returned from Europe, was compelled to go to bed on February 15 having an intense headache and some fever. This, however, can hardly be considered in her case to be the onset of the disease, as during the voyage home, and indeed ever since her arrival, she had suffered from the headache, persistent cough, and general prostration which seem to be almost invariable symptoms of this affection. Her case ran a course very similar to the preceding one. The fever for a day or two was high, the temperature reaching 104° and 104.5°, but even at this time the pulse was never above 100. Later there was rapid defervescence, but the respirations remained frequent, varying from 30 to 35 per minute; the pulse at the same time running only from 80 to 85. There were profuse sweating, with pectoriloquy, and bronchial respiration over the left lung, decidedly harsh respiration over the right lung, persistent cough, nausea, and vomiting, absence of pneumonic sputa, etc.

Case VI.—Dr. ——, the nephew who had been in Europe, was at this time affected in a similar manner, but in a less degree. In his case the physical signs never progressed beyond a general absence of respiratory murmur at the base of the chest; there were moderate night-sweats, an annoying cough, paroxysmal in character and with but little expectoration, and general weakness.

Case VII.—Mr. ——, a young man who had been very assiduous in attendance upon Case II., developed the premonitory symptoms on February 9. His attack began with a severe headache, followed by slight tremors, but no regular chill. A loose, bronchial cough came on, was severe for a few days, and then subsided almost entirely. No physical signs, except very slight bronchitis, were discoverable. On February 14 the pulse and temperature were normal. On February 15, in the evening, the patient was found with a temperature of 103°, respiration 33, pulse 100, and great prostration. There were bronchial respiration, pectoriloquy, and slightly diminished percussion-resonance over the left lung up to the spine of the scapula. This condition, which in the light of subsequent studies we now believe to have been only an intense congestion, went on, in spite of treatment, until a true pneumonia was developed, which ran the usual course, being attended, however, by a marked disproportion between the pulse and respiration ratio, by profuse night-sweats, and by the physical symptoms indicating enlarged bronchial glands, and which will be described later. Pneumonic sputa were present. During convalescence the right lung seemed to be threatened, and the breathing over a circumscribed portion became harsh, almost bronchial; but this condition suddenly disappeared just when it was thought to be about to become pneumonic. Convalescence was slow, and the patient recovered strength with difficulty.

Case VIII.—Mrs. ——, who had been helping take care of many of the invalids, was attacked on February 23. The case ran the usual course,—headache, bronchitis, paroxysmal cough, vomiting, night-sweats, hurried respiration, etc.

Case IX.—Nurse ——, who had been in charge of Case III., was affected in a similar manner. In her case there were marked evidences of the bronchial adenopathy; the percussion-resonance at the bifurcation of the trachea was decidedly impaired. There were great hoarseness and profuse night-sweats. The other symptoms were also present, but in a less degree.

Case X.—Dr. W., who was in attendance on Case III., was attacked on February 27 with the usual initial symptoms, developed slight fever, marked and annoying cough, and great prostration. After the subsidence of the fever, the cough still persisting, an examination of the chest disclosed the physical signs indicative of bronchial glandular enlargements. In other respects his case closely resembled those already described.

Case XI.—Mr. ——, brother of Cases II., III., and IV., was attacked on February 29 with chill, fever, and headache. Within a few hours cough supervened, and was accompanied with great weakness; but no physical symptoms were found until March 3, when bronchial breathing, slight dulness, and marked pectoriloquy were heard over the middle of the left lung. These disappeared as rapidly as they had come, and on March 6 the lung-sounds were almost normal on both sides, except that the percussion-resonance was of higher pitch and slightly tympanitic over both sides; there were moderately increased pectoriloquy and dulness over the root of the left lung. Night-sweats, paroxysmal cough, and nausea and vomiting came on during the progress of the case, and still later there was engorgement of the lymphatic glands of the neck, as evidenced by swelling, tenderness, and dysphagia.

Case XII.—Mrs. ——, wife of Case I., was affected similarly. The cough in her case was the predominant symptom, being excessively painful and very frequent. Owing to the absence of adipose tissue the physical signs here were well marked, percussion showing plainly the area of dulness in the region of the bronchial and tracheal glands. Auscultation revealed very little change except a decided diminution in the amount of air entering the lungs.

Case XIII.—Annie ——, servant in the family in which the original cases occurred, developed some of the symptoms in a mild form on March 5. She had slight fever, moderate night-sweats, troublesome cough, etc. In this instance, together with the signs of enlarged bronchial glands there were vesiculo-tympanitic resonance over the entire chest, and slight bronchophony over the root of the left lung.

Case XIV.—Mr. ——, who resides in New York, visited Philadelphia and called on Case II. on February 15. On March 7, three weeks later, he had a chill, followed by headache and sneezing. At this time the tracheal dulness was marked, and there was decided diminution of the respiratory murmur. With these symptoms there was more than ordinary febrile disturbance, the pulse reaching 120 and the temperature 104° or 105°. Twenty-four hours later (March 8), and without the administration of any arterial sedative, complete defervescence had occurred, the pulse being only 66, and the temperature 98.4°, the physical signs continuing. Convalescence here was very rapid, no bronchitis or other pulmonary complication occurring. In this case there was unequal dilatation of the pupils which was unmistakable, and which we attributed to pressure on the sympathetic nerve by the enlarged glands.

Case XV.—Sister of Case XIV., æt. 12, and a playmate of a younger sister of Cases II., III., and IV., with whom she had spent some time two weeks previously, developed the physical signs imperfectly, with cough and ineffectual attempts at vomiting. Convalescence rapid.

Case XVI.—Mr. B., who had been visited professionally by Dr. W. (Case VI.) while the latter was suffering with the disease, developed symptoms on February 27, and went through the ordinary course, complicated, however, by an intercurrent attack of rheumatic gout. In his case there were apparently the signs of tracheal and bronchial enlargement, with marked absence of respiratory murmur over the base of the right lung. Convalescence was slow.

Case XVII.—Mr. —— returned from London, on February 6, with a hacking, frequent, paroxysmal cough. The usual physical signs were present, with inequality in the amount of air going into the two lungs. There were also night-sweats and the alteration in the pulse and respiration ratio noticed in the other cases.

Case XVIII.—Mrs. ——, housekeeper to Dr. W., Case VI., and who had not been at the infected house, developed many of the symptoms of the disease; the physical signs being present, and the cough being frequent and painful.

Case XIX.—Dr. W., Sr., who was in attendance on several of the foregoing cases, was affected on March 25 with a severe pain, situated at the root of the neck, extending into the left shoulder and both arms, and radiating towards the præcordium. It was occasionally much aggravated by the act of swallowing. At this time he had slight fever and a frequent though soft pulse, once running up as high as 144, with general prostration and mental depression. A day or two later, he having been obliged to go to bed, night-sweats came on, as in the other cases, the original symptoms slowly subsiding. At this time the physical signs were thought to indicate slight glandular enlargement; but, the neck being very muscular, percussion of the tracheal region was unusually obscure.

We may now state that up to the point reached in our general description the observer will be surprised to find nothing in the physical signs that will account for the pulmonary symptoms; in some of the cases not even the evidences of bronchitis: in almost all of them, however, he will notice feebleness of the respiratory murmur on both sides of the chest, or perhaps more marked on one. This becomes more evident towards the beginning of the second week, when the fever may have subsided entirely. Now, if at this stage, and even earlier (we have noticed the fact as early as the second day of the disease), our attention is given to the superior interscapular region, evidences will be found of enlargement of the bronchial glands. As to this fact, we should state that the first cases were not studied from this point of view, and we cannot tell whether they presented the same physical signs.

M. Guéneau de Mussy[*] devotes two chapters to the condition which he calls *adénopathie bronchique.* We believe him to have been the first to call attention to the information that may be gained by percussion of the spinous processes of the vertebræ over the course of the trachea. Following this line in the healthy subject, a distinct tubular (high pitched and slightly tympanitic) sound is elicited by percussion, down to the point of bifurcation of the trachea, on the level of the fourth dorsal vertebra. Opposite the fifth, and downwards, we get the lower-pitched pulmonary resonance. When the tracheal and bronchial glands are enlarged, the tubular sound over the upper dorsal vertebræ is replaced by dulness, which may contrast sharply, above with the tracheal, and below with the vesicular resonance. In Cases VII., IX., X., XI., XII., XIII., XIV., XVI., and XVIII., we have been able to demonstrate distinctly by this method the enlargement of the lymphatic glands.

The symptomatology of these cases becomes clear when regarded from this point of view, for, indeed, all the symptoms of *adénopathie bronchique,* as termed by De Mussy, or *tuberculisation des ganglions bronchiques,* as styled by Barthez and Rilliet,[†] were present in our cases. Of course these authors, and others by them quoted, speak of a chronic affection, and add to the local symptoms those of the cachexy. But we should here observe that De Mussy[‡] does not overlook the presence of this factor in some acute affections. In whooping-cough it has been indeed the basis of one of the hypotheses of the pathology of the disease.[§]

Keeping this subject in view, let us look at a most curious and frequent complication of influenza,—the so-called pneumonia. The differences between ordinary pneumonia and the consolidations of the lung that present themselves in the course of influenza are thus set forth by M. Piorry:[||] "Ordinary pneumonia commences abruptly; in influenza the pneumonia follows upon a bronchitis, and develops gradually. In the early stages of ordinary pneumonia we find at once dulness upon percussion, afterwards the crepitant râle, and finally bronchial breathing. In the pneumonia of influenza we have at first weakness, then absence of the vesicular murmur. The respiration soon becomes tubular, without being preceded by dulness or crepitant râle. The sputa are not rusty in influenza, and the consolidation generally occupies the posterior aspect of the lungs." It will be seen that these differences apply as well to our cases as to those thus described by the master hand of Piorry in 1837. We should add that the extension of these consolidations from one part to another of the lung is very irregular, and that the process is more apt to involve both sides than one. L. Landeau[¶] says, of one hundred and twenty-five cases of influenza, thirty-three had pneumonia. Of forty cases complicated with pneumonia, in twenty-one it was double, in eleven it affected the right side, and in eight the left.

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[*] Clinique Médicale, tom. 1er. Paris, 1874.

[†] Maladies des Enfants. T. 3me, pp. 600. A very valuable monograph.

[‡] Loc. cit. T. 1er, p. 593. He says, "Dans un grand nombre d'affections chroniques et dans beaucoup de congestions aiguës des organes thoraciques, on constate des modifications du bruit respiratoire souvent limitées à un seul côté ou même à un seul lobe, sans lésion locale appréciable. Rien n'est plus commun dans la phymatose, dans la rougeole, dans la coqueluche."

[§] Friedleben. Quoted in article on Whooping-Cough in Ziemssen's Cyclopædia of Medicine.

[||] Lettre sur les caractères distinctifs des pneumonies observées pendant l'épidémie de grippe. Gaz. Méd., Avril 8, 1837.

[¶] Mémoire sur la Grippe, in Arch. Gén. de Méd. for 1837.

But the examination of the post-mortem records, and the symptomatology, will carry us one step further, viz., to the conclusion that in the majority of the cases there is no pneumonia at all. The splenified lung, the absence of fever (it has almost always disappeared at the time when the consolidations begin to develop), the age of the patients, the absence of a tendency to be followed by destructive changes, and, above all, the frequent rapid disappearance of the consolidation, all are evidences that will readily exclude catarrhal pneumonia from our consideration.

Now, further to eliminate sources of error, we must state our belief that in a considerable number of the cases in which the physical signs seem to point to a consolidation of the lung there is really no such condensation. In two of our cases we found towards the root of the lung, on one side, an area of very slight dulness, over which, and for some distance beyond, there were distinct pectoriloquy and marked bronchial breathing. We may here observe, in passing, that in all our cases the vocal resonance and the bronchial breathing were more marked than in health, on both sides, over the region of bifurcation of the trachea. Returning to our two cases in which there was a marked difference between the two sides, it will be seen that a hasty examination will readily suggest the diagnosis of consolidation. It must be remembered that, as Barthez and Rilliet observe, the chains of lymphatic glands accompany the bronchial tubes to their fourth ramifications, and undoubtedly even the lesser degrees of enlargement of glands so situated in relation to the tubes must act as ready means for the transmission of sound. Such is the fact in the *adénopathie* as described by De Mussy. He has noticed this intensification of the sounds even when by percussion the enlargement of the glands could not be detected, and he further states that the area over which they are transmitted may extend beyond that of the region of larger bronchial tubes.

Now, as to the cases in which there is really a consolidation of the alveolar tissue, we must admit, with some observers,

that there may be true croupous pneumonia. Such cases have been reported, but they are extremely rare.

We believe that in all our cases but one the consolidations of the lung should be classified under the head of apneumatosis, as termed by Fuchs. And the form of collapse present in our cases could be appropriately called congestive collapse.

In connection with the subject we are about to discuss, viz., pressure upon the root of the lung, we have made frequent use of the authorities mentioned in the note below.*

Irvine and Gull maintain, the former, that the pulmonary disturbances are due to obstruction of the tubes, the latter, that they are owing to disturbed innervation. It is probable that both are factors in their production, and that even other elements, such as disturbed lymphatic absorption and obstruction of the venous return, may have some influence upon the final result. But as in our cases the tumefaction of the glands cannot be said to be great, we must attach the chief importance to the disturbances of innervation,—a theory that is further supported by other nervous symptoms that will be mentioned.

The first effect upon the lungs, of mediastinal pressure, seems to be the production of so-called emphysema. We doubt not there may have been emphysema in the cases described by Irvine, for instance; but we believe that in the majority of cases, and certainly in those where, as in ours, the disturbance is an acute one, the lung is to be found in the condition described by Niemeyer as *alveolarektasy*. This distention of the air-vesicles accounts for the somewhat exaggerated resonance (almost vesiculo-tympanitic) that we have noticed in our cases, and also for the marked feebleness of the respiratory murmur.

This is followed by collapse, in some cases due to the secretion in the tubes acting in the valve-like manner first suggested by Gairdner.* But we submit that in our cases, if the view we have taken of the subject be correct, the collapse obeys rather the laws of vascular disturbance,—that is, it is due to an engorgement of the pulmonary vessels in the affected part. This engorgement may be purely *ex vacuo*, or, as we believe it to be the case when the pulmonary plexus is involved, it may be due almost exclusively to primary vaso-motor disturbance. Section of both pneumogastrics will cause such form of collapse, and is generally followed by destructive pneumonia. If we could understand clearly what would be the effect of paralysis of the bronchial tubes, we would admit, with Sir Wm. Gull, that that condition might be an important factor in the production of all these pulmonary changes due to pressure upon the plexus. Neither should we forget that Schiff ascribes them all to nutritive or trophic changes. But until our knowledge of pulmonary innervation be more complete we shall rest content with the theory of vaso-motor disturbance in our cases.

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* Sappey. Anatomie Descriptive. His description of the relations of the nerves to the other structures at the root of the lung is very good.

Barthez and Rilliet, loc. cit. They give many references.

Guéneau de Mussy, loc. cit.

Ogle. Eight Cases of Aneurism, etc. Path. Trans., vol. xvii. London.

Riegle. Stenosis of the Trachea and Bronchial Tubes. Ziemssen's Cyclopædia of Med., vol. iv.

J. P. Irvine. On the Occurrence of Collapse, Emphysema, and Destructive Pneumonia in Association with Tumors compressing the Bronchi. Lancet, March 23, April 6, and April 20, 1878.

Sir William Gull. On Destructive Changes in the Lung from Disease of the Mediastinum invading or compressing the Pneumogastric Nerves or Pulmonary Plexus. Guy's Hospital Reports, vol. v., 1859.

One of them is especially valuable as giving support to the view we are endeavoring to bring before our readers. Case XI. presents one day pectoriloquy and bronchial breathing at the root of the left lung; the next day there is dulness of a large portion of the left lower lobe, with bronchophony and bronchial breathing over an area extending from above the angle of the scapula to the base, and out to the axillary line. That is to say, there was, first, engorgement of the left bronchial glands, and the next day the congestive collapse of portions of the lung. On the day after this, no traces could be found of the consolidation. This is certainly not the history of catarrhal pneumonia. However, as there are intimate and reciprocal relations of cause and effect between catarrhal pneumonia and collapse, we can readily see how the condition that we are speaking of may lead to catarrhal or lobular pneumonia (indeed, this is often the case in collapse, whatever its cause), a more permanent lesion, such as met with in Case VII., and one which may terminate in destructive processes,—so-called tuberculosis as a sequel of influenza.

We should not forget that Graves† had already suggested that the pulmonary phenomena were due to altered innervation; but he considered this as a manifestation of a general disturbance. To use his words, "the poison which produced influenza acted on the nervous system in general, and on the pulmonary nerves in particular." It is indeed probable that this fever, like all fevers, is accompanied (cause or effect?) with general nervous disturbance, especially vaso-motor, as indicated by the profuse sweating, but as to this being the chief factor in the production of the local symptoms, we believe that the hypothesis has no other strength beyond its indefiniteness. In this paper we offer an explanation that we believe to be supported by all the clinical facts. We have searched in vain for any statement as to the condition of the bronchial glands in influenza. We find that Nonat‡ quotes an article from Lobstein, where the author states that he has found "une tuméfaction avec ramollissement rouge des filets nerveux qui accompagnent les rameaux bronchiques." We confess that we can scarcely conceive how in such careful examination of the lung the condition of the bronchial glands could have been overlooked.

However, we call attention to the physical signs as they have been pointed out by us, and to the following facts besides. During the prevalence of the pulmonary consolidation, the fever had disappeared in the majority of the cases; and in all of them the pulse had become slow out of all proportion to the respirations, so that some of our patients had what appeared to be a solid lung with a pulse of 60. The respirations were very irregular in some of the cases. One case presented unequal pupils, and all of them more or less vomiting and thoracic pains; all symptoms present in cases of enlarged bronchial glands, and all evidences of disturbance of the great nervous tract about the root of the lung.

We should also add that in Case XI. the recovery was slow; the cervical glands became undoubtedly engorged; there were pain and slight tumefaction of the neck, with considerable difficulty in swallowing, and return of the fever.

We have discarded entirely the views of Nonat as to the presence of fibrinous bronchitis in influenza, because his observations have been distinctly contradicted by subsequent observers. Nor have we considered it necessary to touch upon the subject of venous obstruction.

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* On the Pathological State of Lung connected with Bronchitis and Bronchial Obstruction. Edin. Monthly Jour., 1850, 1851.

† Annals of Influenza, p. 347.

‡ Loc. cit.

We should state that the average duration of the disease was three weeks.

From the study, then, of the clinical facts, we are led to believe that our patients were affected with the specific bronchitis called influenza, and that, in these cases at least, the catarrhal inflammation gave rise to more or less persistent tumefaction of the bronchial glands.

Not having one single post-mortem examination in support of these views, we confess to a feeling of hesitation before accepting them. We never should have brought them before our readers were it not that the investigation has given us the opportunity of calling attention to a group of clinical facts that have not been sufficiently dwelt upon by our American writers; and, finally, it has led us to treat of an epidemic disease which is probably now on its way from Europe to our shores.

A few words in conclusion in regard to treatment. In the early cases the cough and febrile excitement were combated, as in ordinary cases of bronchitis, with sedative expectorants and opium. A fuller experience and more careful study of the disease, together with the recognition of what we believe to be its essential features,—the bronchial adenopathy and the vaso-motor depression,—have led us to abandon this form of treatment, at least in the majority of uncomplicated cases. Instead we have employed such drugs as stimulate the respiratory centres and give tone to the vascular system, viz., quinine, strychnia, sulphate of zinc, and ergot. As the result of our experience with these agents, we have come to the conclusion that, without being positively curative, they tend to shorten the intensity and duration of the disease. Certainly, in some cases we were satisfied that the use of opium and bromide of potassium had been productive of evil rather than beneficial results, and were forced to abandon them.

In addition to the internal remedies mentioned we have employed counter-irritation by means of iodine on the summit of the chest anteriorly and posteriorly, with the view of hastening the absorption of the engorged glands. To this end we have also considered the administration of arsenic, as indicated in the later stages of the disease. Special symptoms were treated as in cases where they complicate other diseases: persistent vomiting by abstinence from stomach-diet, and by the use of rectal injections; night-sweats, when continuing after the subsidence of the other symptoms, by aromatic sulphuric acid; the bronchitis, when, as in some cases, it was obstinate and seemed to depend upon relaxation, by oil of eucalyptus and muriate of ammonia.

A CASE OF TOTAL SYMBLEPHARON OF THE UPPER AND LOWER LIDS OF BOTH EYES—OPERATION ON ONE WITH GOOD RECOVERY OF VISION.

BY P. D. KEYSER, M.D.

Patient presented before the Philadelphia County Medical Society February 11, 1880.

OCTOBER 18, 1877, James R. T., æt. 53, of this city, was brought to me with the history that on the 20th day of March, 1876, his eyes became inflamed. The lids swelled very much. At first there was a watery, then a muco-purulent discharge containing tough shreds. In a few days thereafter he was taken with inflammation of the lungs, and lay very ill for seven weeks. On recovering from his lung trouble it was found that the lids of both eyes were grown fast to the eyeballs, having only a slight opening between the edges of the lids, through which it could be seen that a thick skin extended from the inner side of the lids over the whole of the cornea. Perception of light only remained.

By drawing out the lids this covering over the cornea could be stretched considerably, and appeared to be loose and only slightly adherent. The case was one in which on first appearance there seemed to be but little hope for any benefit, and I so decided, and informed him; but, on a moment's reflection, I thought there might be some chance for improvement—enough, perhaps, to permit him to go about by himself—if the skin over the cornea could be carefully removed by tearing and gently dissecting it off, divided into two flaps, and turned down under the upper and lower lids.

I made the suggestion to him to let me try the operation, for, if not successful, he would be no worse than at present. Willing to undergo anything to recover his sight, he consented thereto, and returned the next day for the operation, with the understanding that one eye only was to be tried.

I operated on the left eye as follows. The lids at the outer commissure were well drawn out and separated as much as possible, so as to raise the fold of skin lying over the cornea far from the eyeball, for the purpose of making a small incision through it without injury to the ball, into which a probe could be passed to explore the extent and manner of the adhesion to the cornea. By so doing it was found that the probe could be pushed in partially around the cornea, above and below, and that the skin over the cornea, although adherent, could be stretched considerably therefrom. A grooved director was passed in the opening, and the membrane, being well stretched towards the centre of the cornea, was cut across the whole surface of the eye, keeping as near the horizontal centre as possible. The incision was then carried well into the outer and inner canthi. The flaps were now carefully separated from the surface of the cornea by tearing and dissecting without injuring the true corneal tissue. The lids were detached from the ball, and the flaps turned under each lid and held in position by sutures passing through the entire skin, as recommended in Arlt's operation for symblepharon.

After the removal of the flaps the cornea appeared quite transparent. The iris could be well and clearly seen.

To protect the cornea, olive oil was dropped thereon, the lids drawn together by adhesive plaster, and the eye carefully bandaged.

There was very little inflammatory action after the operation.

The sutures were removed on the fourth day. The cornea cleared up so well that in two weeks after the operation he walked to my office alone, when previously it was necessary to lead him from place to place.

For a long while he could not close the lids, and to protect the cornea from dust, etc., he wears a pair of goggles with wire sides and plain glass front. To prevent the dryness and cloudiness of the cornea, olive oil is dropped in the eye several times daily, and at night, during sleep, the lids are fastened together by adhesive plaster.

Now, more than two years since the operation, the lids have become so flexible that he can close them readily. The cornea is clearer, and vision improving. He counts fingers at ten feet, and makes out letters of Snellen 14 at six inches. He walks all over the city alone, and recognizes every one.

This case is interesting from several stand-points.

1st. The great infrequency of such a form of adhesion of the lids,—that is, total symblepharon of the upper and lower lids of both eyes. Partial or total adhesion of one lid is often seen from injury by hot metal, acids, or alkali; but adhesion of both upper and lower lids to the ball in their totality, as in this case, is of so rare a form that in an extensive private and hospital practice in ophthalmology for the past fifteen years only two cases have come under my observation. I have also looked carefully through all the literature in ophthalmology (German, French, and English) within my reach, and, so far as my knowledge extends, I find no report of a case of operation on a total symblepharon of both upper and lower lids with the permanent success and recovery of useful vision which resulted in this one.

Many cases are reported where the transplantation of a piece of the conjunctiva of a rabbit was successful in filling the space or gap made in separating attachments of the lid to the ball. Illing succeeded in using the mucous membrane from the lip and the vagina, as reported in the *Allgemeiner Wiener Med. Zeitung*, 1874; but in none of the cases does the history show defect and recovery of vision as in the case presented to you this evening.

2d. The cause of this adhesion of the lids to the eyeball.

From the history given at the time he was first presented to me, it may be concluded that it was a case of conjunctivitis membranosa, a form of disease somewhat rare in this country. His severe illness of inflammation of the lungs coming on so soon after the development of the membranous conjunctivitis prevented, no doubt, the proper attention to his eyes, and, lying so long with them closed and unattended to with the proper remedies, the surfaces of the conjunctiva, which had become denuded by the inflammatory process, readily became attached, and grew permanently fast to each other.

3d. The peculiar formation of the covering of the cornea; it having the appearance as if the palpebral conjunctiva had been dissected up from its posterior line, leaving the anterior border intact, and laid over the cornea, there to unite.

Also the singularity of the adhesion of the false membrane to the cornea, in not being solid, as in cases of traumatic symblepharon, but mobile and extensile, although still firmly adherent.

HOT BATHS IN THE TREATMENT OF THE FEBRILE AFFECTIONS OF INFANCY.

Read before the Philadelphia County Medical Society, February 11, 1880,

BY JOHN M. KEATING, M.D.,
Lecturer on Diseases of Children in the University of Pennsylvania, etc.

THE tendency at the present day seems to drift towards antagonization in the treatment of disease. The wonderful results brought about in the management of poisons by chemical antidotes have undoubtedly had their influence in the treatment of those diseases which, whether caused by subtle poisons generated externally or internally to the body, produce, when they gain entrance, a chain of symptoms so analogous to chemical actions as to demand, according to some theorists, a curative influence the direct opposite to the phenomena produced. Whether their reasoning has always been a correct one only future experience will show. My object in the present paper is merely to attract attention to some practical application of this subject, and to discuss the matter as it appears from our present therapeutical stand-point.

It will be conceded by all that some drugs act differently upon the human system in direct proportion to the size of the doses; a tonic may be made a stimulant, a stimulant a sedative. In most of the febrile diseases the pathognomonic symptoms are evidences of nature's resistance, with excitation of the emunctories or the establishment of compensatory influences. To antagonize these is certainly to aid the poison. If, therefore, all so-called specific febrile affections run a course, our duty seems to point towards aiding nature in her attempt at elimination, at the same time control her vagaries, stimulate her emunctories, but also see that she is not goaded by our remedies to a degree incompatible with life. As a case in point, let us take scarlatina and use it as an illustration.

My attention was called, in the past year, to several cases of this much-dreaded disease in severe epidemic form, with high temperature and its concomitants, in delicate young children. The first case, a boy of about four years, demanded immediate relief. The anginose symptoms were intense; there was restlessness, tending towards delirium; very dry skin, and high temperature. Modern therapeutics would have incorporated cooling baths, or even the wet pack would have been used under German treatment; but constitutional indications seemed to point against such treatment. A hot bath was ordered,—in reality a steaming,—and, while the body was so immersed and covered, cool applications were made to the head. The child was rubbed dry, an anodyne and diaphoretic were administered, warm clothing applied, and in a few moments active perspiration set in, the delirium ceased, restlessness abated, a brilliant eruption took the place of the dark-mottled patches, and the disease ran the usual course, terminating in a complete recovery.

If, then, the theory be correct that in this disease the skin glands take upon themselves the duty of eliminating a poison which has multiplied and accumulated in the blood, the effort of nature had been aided, not repelled. Cool or cold applications, namely, those below the fever-heat, would certainly have checked peripheral congestion; surface-cooling would certainly have taken place, but at the expense of sudden internal congestion, and, as a result, a heavily-poisoned blood-current would have, for a time at least, permeated in increased quantities the nutritive channels of muscular and nerve tissue. To be sure, there would probably be, in due course of time, a powerful reaction, with again peripheral congestion, probably increased temperature once more if the resistance were equal to it, but which fortunate occurrence would certainly be at a great risk. Not satisfied with the mere temporary action of cold, the advocates of this system would give large doses of quinine, digitalis, or other powerful vaso-motor contractors and temperature depressors, to hold still more firmly within its inner channels this poisoned blood, until nature, forced by unnatural processes, would use the intestines, the lungs, or the kidneys to relieve herself of the deadly enemy, or again nervous, pulmonary, or renal congestions would show the mastery of the pent-up poisoned blood. Before enlarging further upon the subject of this paper, it is necessary to understand the exact position occupied by the enemy we intend to attack, its power, and the means at our disposal for its dispersion.

The fact that fever means increased heat of the blood-current of the body, caused by imperfect surface-evaporation, together with a stimulation of the processes that are directly employed in rapid tissue-change, is incontrovertible. That it is the direct action of the specific poison upon nerve-tissue, and not mere functional stimulation, is proved by its persistence in zymotic fevers until the poisonous influences have exhausted themselves. Fever, then, may be present with either vaso-motor contraction or dilatation, its presence depending on the simple physical laws of conduction and radiation, conversion into latent heat by evaporation, whilst the processes producing it are in excess of those tending towards its reduction. Fever also may be local, from local tissue-metamorphosis; or, again, I think it has been definitely settled, by H. C. Wood and others, that certain centres control the general heat-producing parts. The means at our disposal, then, of reducing or controlling temperature are varied. The two most important are certainly the mastery over tissue-change and its causes and the increase in the peripheral circulation, which brings the hot blood to the surface to cool by the vaporization of sweat. Whatever, then, encourages peripheral circulation by overcoming vaso-motor tension, by also stimulating the sweat-glands will of necessity be followed by a reduction of temperature. A hot bath which rapidly causes the body to assume its temperature—several degrees above the fever-heat of the patient—will cause a proportionate reduction to follow its withdrawal, and a well-established fact tells us that when the cooling process has once started the tendency always is for the body to assume its normal temperature after the cause has been removed, even if the reduction is a primary one arising from the sudden application of cold to the exterior; though it is equally well known that so great is the shock of such a reduction that frequently a peripheral temperature of less than normal is attained from external vaso-motor contraction, with danger of death from syncope. The cooling process, then, may be brought about by two measures directly opposite,—cold and heat.

To illustrate more fully my meaning, I will simply call attention to the fact patent to all, particularly those who have lived in a tropical climate, of the relief obtained by warm baths during the intense heats that otherwise would be unbearable. A cold bath is most refreshing whilst one is immersed, but the reaction following—the glow—makes its after-effects more insufferable than the atmospheric heat before, and only calculated to make one comfortable upon a bright frosty morning in the North.

The local application of cold is immediately followed by peripheral depletion,—that is to say, capillary spasm,—and if reaction be normal, increased congestion will follow capillary or vaso-motor dilatation; unless the cold be reapplied, or medication keep up the cutaneous anæmia, the temperature will rise to its previous fever-point, if not higher, to be followed again shortly after by a slight depression.

The local application of moist heat will cause an immediate rise in the thermometer until the temperature equals that of the surrounding medium; the withdrawal then of the bath will be followed by evaporation from the surface of the body—a cooling process—until its temperature will reach that of the surrounding atmosphere, or below it. But this depression, being in this case a secondary one, will be more permanent. Heat applied in this way provokes sweating by direct irritation (as I hope to show in a few moments), and sweating is a cooling process if accompanied by evaporation.

But, as fever is merely a symptom, our choice between these measures, so diametrically opposite, must depend upon the initial cause of the heat-producing processes. It is not within the province of this discussion to enter upon the subject of thermic fever and its treatment, having a cause totally distinct from the fevers which come at present under our consideration; its processes seem to be limited to simple physical and chemical laws, and its treatment necessarily seems simply and justifiably what I have termed an *antagonistic* one. My subject deals with cases which have, as a primary source of irritation, a distinct blood-lesion caused by the accumulation of a living parasite, which, in multiplying or in becoming active, either alters the characters of a previously nutritive current or acts by direct irritation upon delicate nerve-cells that preside over tissue-metamorphosis. This I believe to be the generally-accepted view of the specific contagium of measles, scarlet fever, typhoid fever, and other so-called zymotic affections, and to them alone do I at present attribute benefit from the local irritation of moist heat. As regards the degree of heat compatible with life, it seems a question, and some contend that the point of limit is higher or lower than the other party would suppose.* Most agree that the activity of the skin regulates the endurance of the nervous system, that active sweating, with its evaporations, the surrounding medium being dry, will prevent heat-stroke as thoroughly almost as an ice-pack.

It would seem almost presumption for me to encroach upon the provinces of physiology and anatomy to attempt to review the arguments in favor of sweat-centres with efferent nerves. It is sufficient for the purpose to call attention to several of the latest investigations, particularly those mentioned by Ott and Field,† from whose article I quote the following:

"Luchsinger located these sweat-centres in the spinal cord, in the lumbar and lower parts of the dorsal region, and came to the conclusion that the sweat-fibres in the sciatic traverse previously the abdominal sympathetic; that psychical acts, as fear, will in the cat produce sweating; that heat, asphyxia, and nicotin act on the sweat-centres, increasing the secretion; that irritation of a sensory nerve will call the sweat-centres into activity; and that sweat-fibres run in the same path as vaso-motor fibres, which last fact has been also discovered by Ostrumoff."

The experiments that follow prove that atropine and muscarin act independently of vaso-motor changes through direct nerve-influence upon the sweat-glands.

It may be conceded, then, that sweat is the result of *two* processes,—the one a glandular secretion under the influence of its own special nerve-tracts; the other, simple transudation—leakage due to impairment in vaso-motor tone,—two processes which are frequently observed in the two great glands, the analogues of those of the skin,—the kidneys. That a leaking from the blood-channels can occur is evident from the presence of œdema in diseases of the emunctories or arrest in circulation in parts where no glandular action can produce it;‡ in such cases the glandular nerves are in a normal condition, and merely need stimulation to carry out their functions. The sweating of phthisis may be of two kinds,—one, direct stimulation of the glands following the inflammatory hectic; the other, without fever occurring during moments of greatest depression, when serum-leakage occurs. It may be in place to state here that, to prove as far as possible by therapeutics the statement made, a series of cases of phthisis, who suffered from nocturnal depression, with *cold* sweats, were given minute doses of jaborandi in my wards at the Philadelphia Hospital.§ Jaborandi, a powerful stimulant to the sweat-nerves, when given in small doses proved in these cases a *tonic*, and then, by awakening a certain amount of nerve-force, arrested the process; so will brandy, digitalis, quinine, zinc preparations, sulphuric acid, also a hot bath. If, on the contrary, the same drug be given to a case where the secretion comes directly from undue stimulation, as following fever, the minutest dose will merely aggravate the symptoms.

It is interesting in this connection, by giving us a wider field for study, to watch the phenomena produced in a patient with malaria. Whatever view we may adopt as to its mode of entrance, its character, or its *modus operandi*, it is certain that the poison of intermittent fever is a distinct one, acting by irritation. Its action upon the vaso-motor centres, either direct or through the cerebro-spinal system, causes primarily a *chill;* the reaction or fever following stimulates the sweat-nerves, which bring on glandular secretion. That this excito-secretory function is not the direct action of the poison may be shown, I think, clearly in a series of tests I recently made. During the chill, in a number of cases, nitrite of amyl was administered by inhalation; instantaneous capillary dilatation followed, and no fever or sweating ended the attack. Emetics and hot baths have the same effect. It is unnecessary for me to say that sweating need not always be the result of the direct stimulation of fever.

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* See Da Costa, on Cerebral Rheumatism. Am. Jour. Med. Sci., January, 1875.

† Sweat-Centres, etc. Foster's Journal of Physiology, vol. i. p. 192.

‡ See paper read before this Society (in Medical Times) by Bruen.

§ See clinical lecture on this subject in the Medical Times for June 23, 1877.

Direct irritation of the sweat-centres or nerves is required to bring them into a state of activity; their reaction from a condition of shock will often bring about the same result, provided the nutrition of these nerve-centres is not impaired by vitiated blood-supply or a structural disease. As a natural outgrowth of this statement, it may be said that *direct* stimulation is of the two the more reliable.

As my subject deals entirely with fever of so-called zymotic origin, it requires that, in speaking of the morbid action of the blood-current, I should take into consideration *two factors*,—the specific poison and the high temperature. Of the two, I cannot but class the poison as the more destructive, its concentration at any time upon vital organs as morbific, and the indication always existing of keeping a free and complete peripheral circulation in the skin until the vitality of the poison is exhausted.

I would contend, then, that sweating is depletory, if not eliminative; that it tends in a persistent and permanent manner towards the reduction of heat; that it is not merely the result of surface-congestion, but dependent upon a distinct excito-secretory function, which may be brought about by external irritation; that cutaneous congestion will become a means of reducing temperature; and when we have both these processes combined, we possess a powerful means of reducing temperature and eliminating the specific poisonous materials or the results of their destructive action from the blood. Hot baths increase peripheral circulation, also aid and stimulate glandular secretion, and at the same time relieve nerve-centres from a concentration of poisoned blood or the irritation of blood overheated, and, by inducing perspiration at a high fever-point, cause evaporation from the surface of the body.

In concluding this short paper, which is submitted as simply a suggestive one, I will merely allude to the fact that, as the stimulating effect of heat is what is required, a very short time only is necessary to bring it about. Warm water, made more stimulating either by the use of mustard or by acidulation with vinegar, will further fulfil all indications, and if, after the little patient has been rubbed dry, a diaphoretic (as jaborandi) and a sedative (as one of the bromides) be given, a most satisfactory result will be attained. Occasionally a tendency to syncope or slight dyspnœa will follow, due to the capillary relaxation; mild alcoholic stimulation is then not contra-indicated, particularly if administered warm. Should the pulse become rapid and the heart weakened, digitalis may be incorporated in the draught. In adult cases I have yet to read of the application of this means in the treatment of high temperatures, but I am daily more and more convinced that it is well worth trial, and certain that, should it be successful, it would become far more popular than other modes, on account of the natural and warranted antipathy to cold in private practice.

A CASE OF LACERATION OF THE PENIS DURING COITION, INVOLVING COMPLETE SEVERANCE OF THE URETHRA, WITH INFILTRATION OF URINE, FOLLOWED BY ABSCESS RESULTING IN URINARY FISTULA.

BY W. T. SKINNER, M.D.,
Glasgow, Delaware.

CALLED to W. K., November 5, 1877, five o'clock A.M. His suffering seemed indescribable. He stated that about two o'clock that morning he attempted coition with his wife, and at the entering gave the penis a wrench (probably against the pubic bone) causing something to give way, attended with severe pain and a smart crack like the report of a pop-gun. The pain of the first injury soon in a measure subsided, until he attempted to pass water, when scarcely a drop found its way out at the meatus, but being poured into the swelling (as the patient expressed it) gave rise to so much smarting and pain as to cause him to strain inordinately, sending the whole contents of the bladder completely throughout the cellular tissue of the scrotum and penis.

Upon examination I found the scrotum black and swollen to the size of an infant's head. The penis, which was also discolored, was bent abruptly over, as if broken at the edge of the scrotum, where there was plainly to be felt a sulcus in the right corpus cavernosum. The organ was lying upon the left side, which position it invariably resumed upon being straightened, and its skin and cellular tissue were so enormously swollen as to extend a long way beyond the glans, forming a complete phimosis. I attempted to pass the catheter, but without success; it would slip out and bend up at the seat of the injury. I gave up the attempt for a time, and made a number of incisions into the swollen tissues to allow the extravasated urine to escape, hoping in this manner to reduce the swelling and then succeed in catheterizing the patient. But Mr. K. was soon seized by a chill and quickly passed into a collapsed and seemingly dangerous condition. I called in Drs. Mitchell and Jamar, of Elkton, and after trying a great many different kinds we at last succeeded in passing a No. 5 rat-tail gum catheter upon the stilette. The instrument was left in, and more incisions were made and carried boldly into the cellular tissue. The patient was now stimulated and otherwise treated upon general principles. The catheter was changed every twenty-four hours in order to get rid of any deposit which might have accumulated upon it. Mr. K. soon became more comfortable as the swelling subsided, but in about a week a large abscess had formed at the seat of the injury upon the right side, which so disturbed the relations of the parts that I found it impossible to get the catheter to follow the urethra farther than to the injury, where the instrument could be plainly felt and moved about freely in the cavity of the abscess, and pus would flow through the catheter whenever pressure was made upon the swelling. It now occurred to me that the urethra was not only lacerated but completely severed, and that the swelling had widely separated the two portions by stretching the neighboring tissues, and hence the difficulty in entering the fragment of the canal which lay beyond the abscess. I therefore made a free opening into the abscess, and let out a great quantity of pus and some clotted blood, which, from its dark appearance, I suppose was poured out at the time of the accident, and was the cause of the abscess. This gave an external opening to the urethra also, through which the urine was discharged instead of the meatus. The catheter now went in easily, and was allowed to remain, being changed every twenty-four hours as before. I substituted larger sizes till I reached No. 12, English scale, and still whenever the bladder was evacuated the urine would make its way around the instrument notwithstanding its large size, and the patient suffered from cystitis. On account of these drawbacks, as soon as he was able, I taught him to introduce the instrument himself and to withdraw it after emptying the bladder. The secretion was then all discharged through the catheter, and the patient's progress was more satisfactory, although not altogether uniform. The fistula healed slowly: so I thought to stimulate it with the solid stick of nitrate silver would hasten its closure; but I found such interference rather mischievous, for it was invariably followed by a chill and high fever, and once by severe orchitis: so I determined to discontinue the practice and confine myself, in the way of local treatment, to the use of soap and water, leaving the remainder for nature to perform.

He often suffered from pains in different parts of his body, but mostly situated in the chest. They were probably sympathetic with the tender condition of the urethra, and I looked upon them as a kind of chronic urethral fever. Sometimes there was increased temperature. But notwithstanding all these besetments he finally made a good recovery, both in regard to his general health and also his local trouble, and says he never was better in any respect.

Remarks.—A word in regard to his history. He was thirty-nine years old at the time of the accident. Had had gonorrhœa twenty years since. Had noticed that it took him much longer to pass water than formerly, and this difficulty seemed to be increasing of late, but he had never had complete retention. When erection took place the penis was in the shape of a bow and the urethra was put upon the stretch like the string. These conditions clearly point, in my opinion, to an unsound state of the urethra.

Prof. Gross, in his "Surgery," in speaking of injuries to the urethra says, "Laceration of this canal occasionally takes place under a violent erection, especially if the penis while in this condition happens to be struck accidentally against any hard resisting body;" and under the head of affections of the penis he says, "Laceration of the fibrous sheath of the cavernous body of the penis is occasionally met with; generally as the consequence of a blow while the organ is in a state of inordinate erection during sexual intercourse or in the act of onanism. The occurrence of the accident is generally denoted by a feeling as if something had suddenly given way, instantly followed by collapse, and by a copious extravasation of blood distending neighboring parts, as the scrotum, perineum, and even the pubes. Sometimes a distinct noise is heard at the moment of the rupture not unlike the crack of a whip. The penis is commonly inclined a little towards the sound side, and the site of the injury is readily distinguished by the finger."

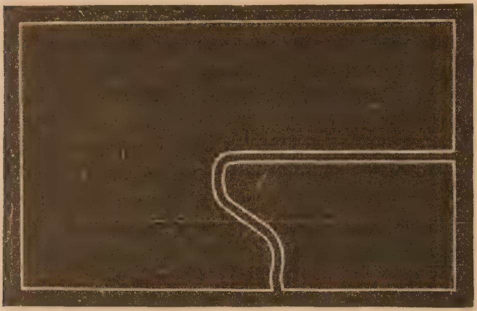
Here were at least both these accidents referred to by Prof. Gross combined in one. The organ was doubtless struck upon the right and violently crushed down upon the left, lacerating the right corpus cavernosum with its fibrous covering. The urethra, being tightly stretched (as we have seen from the patient's previous history), gave way, just as the string would be snapped should the bow be forcibly straightened while it was intact. Taking some of the circumstances into consideration, I think this might not very inappropriately be termed fracture of the penis of the green stick variety.

A NEW FRACTURE-BED.

BY J. E. GARRETSON, M.D.,

Surgeon to the Philadelphia Clinic of Oral Surgery, etc.

THE outline below represents a fracture-bed devised by Dr. Isaac T. Coates, of Chester, Pa., which, for adaptation to end, impresses the writer as being an improvement on the mattresses now in use; sure to associate the name of the inventor with the remedy for a troublesome evil.



A glance at the drawing, in which are represented the two pieces in which the mattress is made, is sufficient to secure to the practical surgeon all advantages residing in the conception. To use the mattress for either leg requires simply a reversing of it. To afford a nurse the required facilities for perfect cleanliness it is alone necessary to lift away the section. To make the apparatus implies nothing more than a single slit made in a common bed.

A note before the writer from Professor Hamilton, of New York, suggests the introduction of these beds into hospital practice. Professor Agnew, of Philadelphia, is very hearty in expressions of commendation. For myself, I look upon the Coates Mattress as being like the wine which needs no bush.

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Honor to a Medical Hero.—Passed Assistant-Surgeon John W. Ross has been promoted eight numbers in his present grade for extraordinary heroism in risking his life at Holly Springs and Memphis during the yellow-fever epidemic of 1878.

TRANSLATIONS.

Generalized Obliterative Inflammation of the Cerebral Vessels (Syphilitic).—Baumgarten (*Cbl. f. Med.*, 1880, p. 8; from *Virchow's Archiv*) gives the case of a woman of 32, who suffered during life with marked cerebral symptoms. At the autopsy, the arachnoid, between the pons and the chiasm, was found to be changed into a bacon-like tissue. In the pia, along the course of the artery of the fossa of Sylvius and the supra-orbital convolutions were situated a large number of mustard-seed-sized grayish-white and yellow nodules; no tubercles. The central cerebral arteries showed marked thickening; some were changed to smooth or knotty strings, here and there glued together. The nodules above mentioned proved to be swellings in the smaller arteries. The arteries of the anterior portion of the brain were still more changed. The posterior vessels were mostly unchanged. The new growth of the arachnoid was composed for the most part of a granulation-like tissue, with a great number of obliterated arterial vessels here and there containing a fatty-caseous detritus. With regard to the diffuse changes of the vessels, Baumgarten refers to an earlier communication (*Archiv der Heilkunde*, vol. xvi. p. 452); they consist essentially in endarteritic growths. The microscopic appearances are given by Baumgarten at considerable length. No anæmic necrosis was found in the brain-substance. The circulation external to the brain was carried on by the posterior cerebral arteries. Baumgarten regards this case as a proof of the gummatous nature of the vascular disturbance which he has always held, and which is shown by the presence of the evidently gummatous tumors of the arachnoid. The case described by Meyer, of extensive periarteritis nodosa, which he regards as due to a rupture of the media (no changes in which could be perceived), Baumgarten holds to be of a primary periarteritic nature and identical with the disease described by Kussmaul and Maier.

Paralysis of Taste following the Extirpation of a Polypus of the Middle Ear.—Moos (*Cbl. f. Med.*, 1880, p. 9; from *Zeitschr. f. Ohrenheilk.*) gives the case of a patient in whom, after extirpation of a polypus of the inner ear, creeping and crawling sensations were experienced in the anterior two-thirds of the tongue, right side, sharpness of taste along that edge of the tongue being also diminished; sensibility to touch was, however, increased. At one time profuse secretion of saliva followed irritation of the ear. There was no pain in the tongue, but a sensation of scalding, very marked diminution of taste, tested by sweet, sour, salt, and bitter substances, together with the galvanic current. On the opposite side of the tongue as well as on the posterior third of the affected side the sensation of taste was normal. Moos thought that the chorda tympani had been compressed by the loop thrown over the surface of the tumor to strangulate it. A spontaneous cure resulted.

PHYSIOLOGICAL EFFECTS OF FORMIATE OF SODIUM.—Arloing (*Cbl. f. Med.*, 1880, p. 12; from *Comptes-Rendus*), contrary to Byasson's experience, has found that formiate of sodium has a toxic effect upon the animal organism when given in a larger dose than 1.0 gramme to the kilo. of body weight. The approach of death is preceded by shallow inspirations, between which pauses of expiration occur which become shorter and shorter. Respiration ceases with an expiratory effort, and cardiac movements last some fifty seconds longer, becoming weaker and weaker in the systole.

After the first injection of formiate of sodium into the vein of a dog or horse the movements of the heart become slower, the capillaries of the pulmonary and aortic circle become dilated, arterial pressure and the rapidity of circulation in the peripheral vessels become diminished. After a larger dose, the cardiac contractions become more frequent, but lose power. Direct injection of a large dose of the drug into the right ventricle is followed by slowing or stoppage of the cardiac movements. Following this, the heart slowly recovers itself or shows the symptoms of poisoning according to the dose.

Small doses increase the number and depth of the respirations; moderate doses lengthen the expirations and cause irregularity of breathing. Large doses hasten it and make it shallower: very large doses cause a momentary suspension of respiration, which, however, soon begins again, is quick and growing in amplitude. These symptoms begin to pass off within twenty to thirty seconds, and give place to slowing and decrease of the amplitude of breathing, tending to stoppage in expiration. The temperature in the dogs experimented upon sank 2.5° C. in an hour, due, Arloing thinks, to the dilatation of the capillary vessels, decrease in the amplitude of the respirations, and the diminished gaseous decomposition and combustion in the lungs. Arloing recommends the employment of formiate of sodium to decrease temperature in those cases where the salicylates are used, being without the objectionable influence of the latter in congesting the kidneys and interfering with the movements of the heart.

PATHOLOGICAL INFLUENCE OF PERIPHERAL IMPRESSIONS OF THE LOWER MEMBERS UPON THE NERVOUS CENTRES.—Onimus (*Cbl. f. Med.*, 1880, p. 16; from *Union Méd.*) has observed, in the case of persons under electrical treatment for various affections, that deep sleep often follows the application of the galvanic or faradic current to the ischiatic nerve. This condition only occurred in certain cases, but in these invariably. In the application of the current to the cervical plexus similar effects are often observed, but generally to a less marked degree. By way of explanation, Onimus refers to the well-known influence of excitation of the ischiatic upon arterial pressure, and alludes to the importance of guarding against the effects of strong external impressions on the ischiatic or lower extremities. In conclusion, he gives an unexpectedly practical turn to the paper by remarking that cases of infantile spinal paralysis are ordinarily due to chilling of the lower extremities, and that consequently children should always be warmly clothed about the lower limbs.

THERAPEUTIC VALUE OF SALICYLATE OF SODIUM IN THE INTERMITTENT FEVER OF CHILDREN.—J. Zielewicz (*Cbl. f. Med.*, 1880, p. 62; from *Deutsche Med. Wochens.*) reports 207 cases of intermittent fever treated exclusively with salicylate of sodium. The doses, which were large, were given during the fever period, and the result was favorable. In comparison with quinine, however, it is not equal in certainty and rapidity of action. In children under one year an average amount of 3 to 5 grammes (with a range of 3 to 8 grammes) was administered. In children of 1 to 4 years, 5 to 6 grammes were given, and in children of 10 years, 8 to 10 grammes. The treatment is decidedly cheaper than that by quinine.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, APRIL 10, 1880.

EDITORIAL.

PRIZES BY THE AMERICAN MEDICAL ASSOCIATION.

IT cannot fairly be gainsaid that in this country, whilst medical practitioners of the better sort are at least the peers of those of any other land, scientific medical inquiry is at a comparatively low ebb. When such leaders as Professor Flint occupy their attention with the writing of medical school-books,—the very primers of our art,—when there is not a single well-furnished physiological or pathological laboratory in the land at which active work goes on steadily, our pride in the present must be sustained by our hopes for the future. Original scientific talent is undoubtedly as abundant here as anywhere else in the world, but there is, unfortunately, a most severe dearth of encouragement. We hail, therefore, the proposed alterations in the by-laws of the American Medical Association as a step in the right direction, and as a public recognition of the need of encouragement. It is by no means sure, however, that the amendments, which propose that appropriate committees should select four subjects for investigation, and that four prizes of two hundred and fifty dollars each be offered for the best essays upon such subjects, are exactly what is wanted.

To investigate a subject at the bidding of another is to take up a task in cold blood,—deliberately; whilst to investigate a subject because you are interested in it is usually to be drawn in, little by little, until eager desire turns work into play. The investigator who has original genius usually does best when, after proper training, that genius is left to select according to its own promptings. There are many prizes offered in this country upon determinate subjects, and very rarely do the essays elicited amount to much.

Then, again, what is two hundred and fifty dollars as an encouragement to the original investigator? It is not enough to pay the expenses of any extended research in experimental medicine. Dr. S. Weir Mitchell's study of rattlesnake venom cost him over one thousand dollars; and the outlay upon another experimental memoir just completed in this city has amounted to nearly the same sum. If the American Medical Association desires to offer smaller prizes to encourage beginners or to stimulate older hands to dash off some brief essay, well and good; but what is wanted is the possibility of taking one prize which, by its magnitude, by the difficulty of obtaining it, and by the ceremonies surrounding its reception, shall be made so impressive as to make the man who has obtained it distinguished among his fellows. The competition for such a prize should not be with rival memoirs so much as with a standard of excellence so high as rarely to be achieved.

The sum of money should not be less than one thousand dollars, along with a gold medal, to be a perpetual souvenir of the triumph. The successful candidate should be duly notified, and required to attend at the meeting of the Association, and then, in full session, directly after the President's Address, the prize should be awarded with appropriate ceremonies.

The funds of the Association are amply sufficient for this. Let there be one annual prize of two hundred dollars or two biennial prizes of two hundred dollars each, to be given, if it is thought best, for some specially-directed research, and the grand prize to be awarded not oftener than once in two or three years, and only then when it is undoubtedly deserved. The greatest care should be exercised in selecting the committee of award, so that it should not be composed of those whose good nature should incline them to yield too easily a favorable decision. Rather let the committee feel that their mission is to keep unhallowed hands off the treasure, and only to yield it to him who has proved himself a very high-priest of scientific research.

Johns Hopkins University, under the care of President Gilman, is evidently becoming the centre of "high science" in America. The Circular No. 3 which lies before us is especially devoted to the doings of the University in mathematics and physics, and gives abundant evidence of most active and abstruse work. We would call especial attention to the preparations for correcting thermometers. It is almost impossible to make absolutely correct thermometers, but in calorimetrical science correct instruments are a necessity for accurate work. Having been provided with standards which have undergone rigorous comparisons with standard instruments by Fastré, Geissler, Carrella, Baudin, and at Kew, it is proposed to compare, for moderate fees, thermometers with them, and prepare tables of error, so that, by allowance for error, the corrected thermometers may be used as absolute instruments.

A very curious difficulty in the way of sanitation has been met with in London. It seems that the subsoil of many of the streets is already crowded as closely with pipes as Père la Chaise is with corpses. In consequence of the lack of space, the Board of Works have objected to the scheme for supplying London with sea-water. The recent improvements in the manufacture of "water-gas" for heating-purposes seem so thorough and practical that it looks as though in a few years coal-fires in private residences would be confined to grates and open fireplaces. With electrical cables and wires, heating and illuminating gas-pipes, water-pipes, sewers, drains, etc., the ground below the pavements of our crowded cities will soon be as full as the air is above.

The Code of Ethics of the Massachusetts Medical Society being in many respects a novelty, we print it in full in another column.

CORRESPONDENCE.

LONDON LETTER.

The effects of alcoholic excess upon the liver are vaguely admitted generally rather than distinctly comprehended. Even Murchison, in the last edition of his well-known work on the diseases of the liver, says comparatively little about alcoholic disease of the liver, and is in some doubt as to whether enlargement is always followed by subsequent contraction, or whether there is cirrhosis and diminution of size from the commencement in some cases. A recent notorious trial brought the subject of the effects of alcohol upon the liver very prominently forward before both the public and the profession, while the inquiries of the committee of the Harveian Society have elicited much information as to the proportion of deaths actually "due wholly or partially to alcohol." To ascertain the latter, the committee issued a circular to all the members of the society, asking them to look back for five years the counter-foils of their death-registration books and see what deaths they had where alcohol was partially or wholly accountable for the death, and also what had been given as the cause of death in the death-certificate. It was found that liver disease figured by far the most prominently. It was thus made abundantly clear that alcohol is a great factor in the production of liver disease. The further researches of the committee will be followed with much interest.

Then as to the trial. A lady still young, the daughter of a highly respected officer, Colonel Maclean, was seduced, and then killed by being first encouraged to drink, and then "neat" or "raw" spirits being forced down her throat. The case was remarkable in many ways, and marks a new era in crime, viz., alcoholic poisoning. Undoubtedly many a poor creature has been "done to death" by alcohol homicidally as well as suicidally before this case; but here the culprit was brought to trial, and, narrowly escaping hanging, was sentenced to penal servitude for life. Whatever his own opinion on the merits of the case may be, the public have quite endorsed the sentence. The lady, who was a little over thirty, belonged to a very good family, which occupied an excellent social position, and, though not wealthy, was in affluent circumstances. Mr. Lewis James Payne was an adventurer. He admitted having had a plurality of wives. How he first became acquainted with Miss Maclean did not come out in evidence, but he had known her some years in the lifetime of her mother. Miss Maclean was deformed from spinal curvature, had very short legs, and walked with a stick; nor did any beauty of features redeem her appearance or render it less homely: indeed, she was far from an attractive personage. On the death of her mother, in March last, she became possessed of a little fortune of some twenty-five hundred pounds. This evidently excited Mr. Payne's cupidity. He induced her to cohabit with him as his wife, and in this very equivocal position she went with him to visit Mrs. Payne and her children. Payne seems to have taken advantage of the poor thing's passions to convert her entirely to his uses. He got her away from her friends, plied her with drink, and got all her property into his hands by a deed of gift. Having done this, he set to work to make as short work of her as possible. Having got hold of her property, he proceeded to make it entirely his own in the shortest possible time. He drank a good deal himself; indeed, he seems to have been a healthy drunkard, who wore well, and upon whose tissues alcohol acted but little or slowly. By the month of September the enlargement of Miss Maclean's abdomen caused them to suspect pregnancy and to consult a local practitioner, who found "flatulent distention of the abdomen." She now seems to have been in failing health, and he brought her up to town for medical treatment, he said; but he called in no one known as an authority. On the other hand, he called in a medical man whom he met casually, and who furnished the death-certificate. Probably to procure the death-certificate was his chief concern. Then the people of the lodging-house to which he took her called in a medical man, Mr. Payne having taken himself off with Miss Maclean's maid, to whom he accorded the brevet rank of wife and lady, leaving the poor gentlewoman, whom he had utterly ruined, body and soul, to be tended during her dying days by strangers and amidst comparative squalor. Before his elopement with her servant he used to pour spirits down the dying woman's throat, and neglected to provide her with food. His final act of blackguardism was to decline to pay the modest bill of lodging-house keepers who had done their best for his victim after he had abandoned her. But the law reached him, and he was tried for his life, and very narrowly escaped from being convicted on the charge of murder in the first degree.

So much for the outline of the case. Now let us consider the more strictly medical aspect of the case. It would appear from the sworn evidence that in April Miss Maclean was in her usual health; on the 17th of November she died. It also appeared that she had evidenced a liking for alcohol for some time past, and that Payne had been in her company from time to time before the death of Mrs. Maclean, in March, threw the poor creature entirely into his power. From April to September she cohabited with this scoundrel, living a life of immorality and partial intoxication, without much disturbance of her health. In the middle of September, however, she was found to have "flatulent distention of her abdomen," while the liver was believed to be "congested." On the 6th of November her "liver was very hard and enlarged, and prominent to the touch;" *i.e.*, the liver in this brief period of six or seven weeks had acquired those characters which we recognize as indicative of interstitial hepatitis. On the 17th of November she died, and at the autopsy it was found that her liver weighed fifty ounces; that is, it had reached the weight of the largest normal liver in a man. Now, though Miss Maclean was very short, she was not petite, and the dwarfing was due to deformity rather than to arrested growth; so that the size of her liver at death was scarcely so large as to have made it "very hard and enlarged, and prominent to the touch," as it was found eleven days before. Assuming the medical testimony to represent fairly the facts, we are shut up to the conclusion that during the last ten days or so of life the liver had been diminishing in bulk. This gives us some impressions as to the rapidity with which liver changes go on in some systems under the stimulus of alcohol. There was also fatty degeneration of the fibrillæ of the muscular walls of the heart,—a common sequel of prolonged alcoholism. Comparing this case with one's usual experience, one must say that the tissues of this unfortunate lady exhibited an unwonted readiness to undergo decay. But, however this may be, there the facts are, according to sworn testimony; not impressions, but evidence given upon oath. In a period of about six months distinct evidence of structural decay is furnished in an organism still youthful and apparently hereditarily sound. The morbid changes are those of more advanced life, and bear out the statement that alcohol rapidly ages the tissues. A drunkard dies prematurely old. Alcohol renders the tissues degenerate with a swiftness all its own.

The history of this case raises some interesting issues for the physician. The first is this: Did the liver in this case undergo any diminution in bulk during the last few days of life from its stores of glycogen being exhausted? That is, the liver being the storehouse of glycogen, does it undergo any diminution of bulk in prolonged starvation from the store of glycogen being used up for the body needs? On this matter we have some information, and Murchison tells of a liver reduced to thirty-two ounces in a case of cancer of the œsophagus. So it is clear that as a possibility this must be borne in mind. Before cirrhosis is assumed to be the cause of the diminution of bulk in any particular liver, it is well to know that there is a normal diminution of size in the liver in starvation. A few experiments would soon throw some more light on this matter, which is well worth investigation. It appeared that during the abstinence of the last few days of life the stomach had regained its normal appearance, and presented none of that inflammation which drinking ardent spirits produces usually. As to the symptoms developed during life, Murchison describes them as alcoholic dyspepsia; a craving for alcohol alongside of a loss of appetite for solid food; a furred tongue, and depression of spirits, often with flatulence. In more advanced stages there is progressive emaciation and debility. The portal vein becomes much obstructed, and so nutrition is impaired; the patient dying of exhaustion, with the faculties remaining clear to the last in many cases. In this case, on the morning of the day she died, the poor lady complained of shortness of breath, so that her subjective sensations were not impaired, whatever her intellect might be; but of this nothing is said in the evidence tendered. The liver, then, presumably had to some extent shrunk during the last few days of life. Whether betwixt the middle of September and the 6th of November it had been larger than it was found at the latter date, or it was at its largest on the 6th of November, can never be known. It might be declining at that date and have already diminished somewhat in bulk. About this we have not material enough to speculate even. Experience tells us only too often that the liver changes in comparatively young women, who contract drinking habits, are swift, but whether usually so terribly swift as in this case may not be affirmed. Young women who become abandoned to ardent spirits, which they take little if at all diluted, soon develop a large liver,—so large as to make the increase in size of the abdomen apparent to the most casual observation. At times the roughness of its surface and the irregularity of its edge is quite easily felt through the abdominal parietes. In such cases, in my experience, the patient does not live long. Seeing such cases only in consultation, no opportunity has occurred to me of following out cases of this kind. How soon there is any diminution of size, or whether the liver goes on increasing in bulk until the end, is not known. Murchison does not follow out the morbid anatomy of interstitial hepatitis as carefully as he works out its clinical phenomena. But we know that there is first a development of soft connective tissue betwixt the other tissue-structures which first gives increase in bulk, and that, after this, the neoplasm contracts, as is the nature of pathological connective tissue, and then comes contraction until the organ is reduced below its normal size, while its firmness is increased and it becomes harder than natural. This contraction is unequal, and so the surface is rough and the edges irregular, instead of the natural smooth outline. The pressure of the contracting tissue upon the other structures of the liver alters the appearance; so that on a section of the liver being made, the darkening of the centres of the lobules contrasts with the paleness of the circumference, and, the dark and light parts being sharply defined, the appearance presented gives very exactly that of a cut nutmeg. To this pressure is to be added that of the distended hepatic capillaries. The nodular appearance of the surface of the liver, when contraction has advanced some way, has caused the term "hobnail" to be applied to livers so changed. It would appear that in the changes found in the more obese bodies of beer-drunkards the liver is increased in bulk and contains a larger quantity of fat; while in wasted persons dying from spirit-drinking the liver is dark in color, small in size, and devoid of fat. The hepatic cells undergo atrophy and waste; or they may, under other circumstances, become loaded with fat and bile-pigment. Beyond this, too, there is a thick capsule of adventitious tissue developed over the liver itself, which, in its contraction, exercises much pressure upon the liver as a whole; indeed, it sometimes tears itself during its contraction (Wilks and Moxon). Such, then, is the onward progress of interstitial hepatitis when excited by indulgence in ardent spirits. At times the clinical history points to old-standing cirrhosis of the liver upon which an acute congestion is implanted, just as acute kidney mischief is often seen along with old-standing organic changes. Indeed, it would appear that acute exacerbations of a chronic condition occur in the liver as well as in the kidneys. The subsequent contraction of the new material leads to still further diminution of the liver, with impairment of its function. How long these changes can progress before the condition of the liver is incompatible with the continuation of life it is impossible to say. It is of great moment, however, in the treatment of dipsomania, to have some clear notions how far the liver changes affect the prognosis of the case. If there exist advanced liver mischief, is it possible so far to arrest the onward progress of the case as to enable the patient to live for years with care? Or, on the other hand, when once the liver enlargement is pronounced, does the case pass steadily onwards to its inevitable issue? How or when or where a certain and accurate answer can be returned to these questions is uncertain, but information on the subject is sorely needed. At what point may the physician step in and arrest the progress of the case? what is the indication that the case has passed beyond the very last point where interference is practicable? are matters on which we all would like to know more. Whether secret drinking is at all a practice in the United States I do not know; but that such practice is sadly too frequent here one is painfully aware. Here we see constantly young women, handsome, accomplished, gay, and lively, married or unmarried, but usually married, giving way to habits of drinking, more or less secretly. And whenever the liver begins to descend below the ribs, then we all know, only too well, that the prognosis of the case is just about as bad as anything can be. This descent of the liver may occur, to some extent, before the patient could in any way be taxed with intoxication. In some organisms there is great susceptibility on the part of the liver, and a moderately rich meal, without any undue indulgence in alcohol, will produce hepatic congestion. The recurrence of this will in time lead to enlargement, the first stage of interstitial hepatitis which precedes the advanced stage of contraction. It is, however, more common to find the appetite for food failing while the desire for alcohol is on the increase. At first wine or malt liquors are drunk; but in time ardent spirits alone are craved for. In some cases of alcoholism the drinker at last reaches that condition that the younger the spirit, and the more fusel oil it contains, the more acceptable it is to the palate and the stomach.

There is just one more aspect of the case to be considered, and that is how far, in the above case, mental distress and worry accelerated the progress of the liver mischief. We now know something of the effects of worry upon the viscera. We know that diabetes is often produced from cerebral causes; albuminuria I have seen so caused; jaundice may result from fright; anxiety causes wasting. Now, it is probable that in Miss Maclean's case her visceral disease may have been aggravated by her mental distress. Having utterly forfeited her position in society, alienated her friends, given her person and her property to a scoundrel, disgraced, living in open shame, her mental distress must often have been extreme. However defective her moral sense, there is no evidence of weakness of her intellect; and she must often have keenly realized the position in which she had placed herself through her unfortunate attachment. This must have preyed on her mind. It undoubtedly increased her craving for alcohol. Whether it also added to the terrible swiftness of the changes in her liver may not be affirmed. It seems possible, though. J. MILNER FOTHERGILL.

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DR. MULHERON, of Detroit, gives the fluid extract of eucalyptus globulus, in the dose of twenty minims every four hours, in subacute cystitis, with good effect.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 12, 1880.

THE PRESIDENT, DR. S. W. GROSS, in the chair.

Extensive carcinosis of the osseous system and liver, consecutive to scirrhus of the mamma. Presented by Dr. SAMUEL W. GROSS.

REBECCA H., 65 years of age, was admitted into the Philadelphia Hospital, on the 5th of July, 1879, on account of a supposed intracapsular fracture of the left femur. She was also suffering from a hard, painful tumor of the left mamma, which she attributed to a blow received a year previously, and there was also a hard, ovoid prominence at the site of the left frontal boss.

My colleague, Dr. Hatfield, removed the breast, along with a few hard and enlarged axillary glands, and the wound speedily healed. The skin of the entire body gradually became yellow; she lost flesh and appetite; the disease recurred in the axilla two months after the operation, and, ten days before death, she fell against her bed, and sustained a fracture of the left humerus.

On post-mortem inspection, February 11, the total life from the first observation of the mammary growth having been nineteen months, the cicatrix was sound and mobile, and the pectoral muscle was free from secondary nodules. The glands of the axilla were converted into a densely hard, knobby tumor as large as a lemon. All of the viscera except the liver were normal. The right lobe of that viscus, and especially its upper convex portion, was the seat of tubers, which varied in size from a pea to a walnut, and the largest of which were deeply umbilicated. In the left lobe there were only two nodules.

The greater trochanter, neck, and head of the femur were infiltrated by carcinoma, and in the last two situations there were densely hard, round tumors, which were upwards of an inch in diameter. The neck of the bone was fractured at its point of union with the trochanter. The iliac glands were enlarged.

The left humerus was broken at the junction of its upper with its middle third. Its medulla had undergone carcinomatous degeneration, and projected a fungus into the surrounding soft tissues.

The frontal, parietal, and occipital bones were entirely infiltrated by the disease, and so soft that they could be readily crushed or broken. At the seat of the left frontal boss there was a tumor of central origin, which was of a biconvex shape, two inches in width, and half an inch thick at its centre. The left side of the occipital bone was occupied by a similar but smaller growth. The dura mater was beset by nodules, which varied in size from that of a millet-seed to an inch transversely. The brain was healthy.

Minute examination of sections of the various growths disclosed that they were tubular scirrhus.

Case of large spindle-celled sarcoma of mammary gland. Presented by Dr. C. B. NANCREDE.

Mrs. F., æt. 35 years, the mother of four children, first noticed, accidentally, a small "lump," the size of a hazel-nut, in her left breast about two months before I saw her. It grew rapidly, but painlessly, for about six weeks, at the end of that time having reached the size of a doubled fist. About two weeks before I saw her there was a sudden and rapid increase of the tumor, attended with considerable pain. When she first noticed the "lump" her physician was consulted, who, without examining the growth, prescribed belladonna and iodine ointment as a local application. Two weeks before the operation, that is to say, about six weeks after first noticing the tumor, the pain compelled her to submit to an examination by her family physician, who discovered, as he thought, obscure fluctuation. At a spot about two inches from the nipple, at the upper outer portion of the breast, the skin was red, inflamed, thinned, and presented appearances of pointing. After poulticing for some days her physician put in an exploring needle, and found what he thought was bloody pus. The following day he opened the softened spot by an incision, giving vent, however, only to about an ounce of grumous blood and clots, which microscopically revealed nothing special. No marked diminution in size followed the incision, although relief was experienced from the reduction of tension. Poulticing was continued, but no pus, only bloody oozing, accompanied by the extrusion of small clots, followed these applications.

I was asked to see the case in consultation, when I found a growth of a smooth hemispherical form occupyng the whole breast. It was elastic to the feel, and had an obscure sense of what might be mistaken for fluctuation. A probe introduced through the incision passed for several inches in every direction through a mass of the consistence of currant-jelly. The passage of the probe was followed by considerable bloody oozing. No adhesions to the deeper parts existed, and there were no glandular enlargements.

On January 28, 1880, I removed the breast, with considerable difficulty, owing to the incision in the tumor, which permitted the diffluent contents to flow away, so that by the time the operation was completed little beyond an empty cyst remained. The contents resembled semi-clotted blood, and certainly but few fragments were detected which to an experienced eye were aught else than blood-clot.

A microscopic examination sustained the opinion given at the operation that it was a rapidly-growing sarcoma, into which hemorrhage had taken place. It consisted mainly of large spindle cells, with here and there the remains of proliferating gland-structure, all being more or less infiltrated with blood.

The case is of interest owing to the risk of confounding an exceedingly malignant growth with an abscess before opening, or afterwards with a "blood tumor," which, much to the surprise of the surgeon, rapidly returns after removal.

Inflammation of the lymphatics of the pulmonary pleura. Presented by Dr. E. T. BRUEN.

The specimens which I present this evening on inspection apparently reduplicate a similar pair of lungs which I think I exhibited to the Society within the past year.

In the former specimen an identical appearance was manifest on the surface of the pulmonary pleura, but there were absolutely no traces of a pathological process in the parenchyma of the lungs or any other organ, which separates the case from the specimens before us.

As I exhibit the left lung, the appearance on the surface of the pulmonary pleura suggests at once the macroscopic appearance of tubercle. Everywhere are seen nodules of a whitish hue as large as a hemp-seed to a small pea; these nodules are connected into a net-work over the pulmonary pleura by streaks of whitish material evidently inflammatory in their nature. At the base of the right lung there is a pleurisy, much cheesy material, adhesions, and in the lung-tissue patches of chronic catarrhal consolidation. In the left lung, the one covered with the nodules, a few masses the size of a pea are found.

The liver, spleen, kidneys, and mesentery were examined without any pathological appearances being discovered.

These facts discountenance somewhat the idea of tubercle, for so extensive surface deposit as is seen in this specimen would usually be accompanied by a tubercle deposit distributed throughout at least the pulmonary parenchyma in its blood-vessels, lymphatics, or peribronchial sheaths.

In the specimen presenting a similar appearance on the pleura, to which I have referred, the nodules were examined by Dr. Formad and myself, and no true tubercular structure could be found, but merely evidences of inflammatory cell-proliferation.

It was, then, a simple inflammation of the lymphatics coursing over the surface of the lung in the pulmonary pleura. From the description, I think similar cases were described before the London Pathological Society in their late discussions of tubercle.

The lymphangitis in both my cases, then, developed through the medium of absorption from the cheesy material in the pleura, the irritant producing tubercle in the last case, perhaps, on account of the diathesis of the patient predisposing to this form of inflammation, as Rindfleisch suggests; and this must be granted if microscopic examination by the Committee on Morbid Growths decide it to be tubercle. But in the former case the lymphangitis was simple in its character, no tubercular structure being detected, unless, indeed, tubercle be simply an inflammation of the lymphatics, in which case the tissue may have represented a very early stage of the inflammation.

Report of the Committee on Morbid Growths.—"A section of the lung presented by Dr. Bruen, when examined with the microscope, showed it to have scattered throughout its parenchyma numerous small nodules, which are composed of adenoid tissue. The pathological condition is one of miliary tuberculosis.

"March 25, 1880."

REVIEWS AND BOOK NOTICES.

The Principles and Practice of Gynæcology. By Thomas Addis Emmet, M.D. Second Edition. Philadelphia, H. C. Lea, 1880.

In his initial page Dr. Emmet throws out a hint of grave, if hidden, import. "Archæologists," he says, "give abundant proof that successive races had peopled the American continent and perished before our own occupied it. . . . It is not impossible that the peculiar nature of our climate has a share in it." Does the great future hold in store this fate for us? When one looks into the many works on gynæcology, and realizes from these and other sources the vast amount of female weakness and disease among us, it seems as though the dreaded "decline and fall off" were already insidiously beginning, undermining the mothers of our race till they soon can no longer be mothers; a sort of natural Battey's operation,—a spaying by climate rather than the knife; done so much better by nature, in that without antiseptic precautions there is little direct mortality, the victims living on, quite unconscious of their co-operation in the depopulation of America, till, finally, when we are all gone to the Aztecs and the "mound-builders," and there be nobody to write about it, the whole matter will be plain enough.

In search of the causes of this state of things, Dr. Emmet has much to say concerning our vicious system of female education. From another point of view, it seems possible that we may overlook the injury done to our growing males by educational forcing and emulation,—an injury accounting for many instances of mysterious break-down in early and mature manhood, which are now attributed only to the rush of business and the strain of professional life. In regard to girls, however, the matter has been so often and so clearly stated that one begins to look for some results. But there are no fogies so old and tenacious as the educational fogies, and the hammering of another half-century may yet be required. Dr. Emmet's remark on page 20, that he has so often found in his case-books the statement that patients had "taken the highest honors at some female college or school," is but the reiteration of every one who has investigated the subject.

The chapters on Instruments and Appliances, Mode of Examination, and Recording Cases are excellently illustrated and pleasantly written. Chap. VI., on Principles of General Treatment, is especially interesting for its excellent advice in regard to the use of opium. The author, thrown into daily and almost exclusive contact with female disorders, realizes, as another might not, how much mischief may be done with this drug. He has, for years past, abandoned the use of the hypodermic syringe, and rarely gives opium in any form by the mouth, preferring the rectal use when absolutely required. For this he claims that digestion is not impaired, no rapid increase of dose is required, and the patient seldom herself resorts to it. We find the same opinion again (p. 283), when speaking of cellulitis and its treatment. He says, "The inventor of this method" (the hypodermic) "has given, I fear, a curse to the human race instead of a blessing," and fears "that we shall, at no distant day, rival the Chinese in consumption of opium." These are gloomy views. The censure of physicians as authors of the hypodermic habit should have been restricted to those—few in number, we hope—who advise their patients to purchase and use the instrument, or place it in the hands of nurses who, however well trained, yield more readily to the pertinacious appeals for its Lethean rest. The idea so often expressed, that an increase of quantity is necessary, has also done harm, for no such necessity exists, in the great majority of cases. The false idea is taken for a fact by physician and patient with disastrous results, as also the statement made by a well-known authority, and often quoted by patients themselves, that a dose of a certain magnitude several times administered establishes a craving which is lifelong and which nothing but the opiate can ever satisfy. It is probably not so hard to break off the hypodermic habit as the habit of alcoholic intoxication, provided the actual pain for which it is originally taken—not the opium neuralgia Dr. Emmet mentions—does not steadily persist.

The author treats anæmia with brisk salines and mercurials, as well as tonics. He is no friend of "rest in bed;" he says "no greater fallacy ever existed." Fresh air, sunlight, and exercise are his great aids. Thus we see how doctors disagree, and can here, on page after page, read of the author's success by getting patients out of bed, and then, turning to another author of equal celebrity, find that his great success is by getting patients into bed, and see how the most opposite plans of treatment yet lead to the grand result; but perhaps it is all in the man and not the method in either case.

The author's own belief as to the "great cause of disease in women" being "exposure, the result of insufficient clothing" (p. 113), will hardly stop all investigation in other directions, but shows us that neither getting out of bed, nor air and sunlight, nor personal magnetism of the physician, but flannel—simple flannel, the flannel of the Dorcas Society and the soup-house—is the great remedy for the cure of female diseases. The therapeutics of the future will be simple.

The most valuable portion, and that which constitutes the greater part, of this bulky volume, will be found in the chapters devoted to those operations which have rendered the author's name famous. The subjects of laceration of the cervix and perineum, fibrous growths of the uterus, vesical and urethral fistulæ, and ovarian tumors are treated fully, and illustrated both by excellent cuts and by more excellently narrated histories. The statistical tables are well arranged, and the chapters on local treatment will be eagerly turned to by most readers, filled as they are with facts and suggestions of practical value. The charming style of the book, its occasional positiveness, its attention to the minutest details, are all reasons why, in the multiplicity of works on the same and kindred subjects, it should still find a place in every physician's library. E. W. W.

PHARMACOLOGY AND THERAPEUTICS OF MEDICINE PAST AND PRESENT. By T. LAUDER BRUNTON. Macmillan & Co., 1880.

This little book—the record of the Gulstonian Lectures delivered in 1877 before the Royal College of Physicians—is a thoughtful attempt to show the different methods which have prevailed in therapeutics from the first dawnings of history. It is well written, and shows a very wide range of reading, as well as clearness of thought. The most important of novel matter in it is the account of the author's investigations upon casca bark,—a poison which bids fair to become a drug of equal rank to digitalis. Its action closely resembles that of the foxglove, excepting that the African ordeal poison seems to affect more powerfully the arterioles, and to act upon them entirely independent of the central nervous system. We commend this book especially to that not yet extinct, though rapidly becoming fossilized, race of physicians who do not believe in the so-called physiological school of therapeutics.

TRANSACTIONS OF THE AMERICAN OTOLOGICAL SOCIETY. TWELFTH ANNUAL MEETING, 1879. Pamphlet, pp. 72.

The most interesting paper in this series is a report of a case of Ménière's disease following parotitis, by Dr. H. D. Noyes. The condition existed in the right ear, which was totally deaf, though the parotitis had been symmetrical. Disturbance of equilibrium, with inclination to walk to the left, when the eyes were closed, was a constant feature. Dr. H. Knapp reports a case of unilateral duplication of the auricle,—the only case of the kind, it is thought, so far recorded.

LECTURES ON THE DISEASES OF THE NERVOUS SYSTEM. By J. M. CHARCOT. Translated by GEORGE SIGERSON, M.D.

This is a very readable translation of Charcot's well-known lectures, lectures whose chief fault is that they do not form a complete system, but only deal with certain diseases. The mechanical execution of the book is good.

HINTS ON FEVER NURSING. By JAMES W. ALLAIN. Philadelphia, Lindsay & Blakiston.

There is much in this Scottish brochure which commends it, but we think it is somewhat open to the criticism of tending to make the nurse too much of a doctor, and we see no reason for preferring it to some of the American manuals on nursing.

GLEANINGS FROM EXCHANGES.

ARSENIC-POISONING FROM WALL-PAPER AND DRESS.—Mr. Francis Image (*Practitioner*, February) gives the case of two children living in a small, unventilated nursery, the wall-paper on which was white, with bright green flowers upon it. After a fortnight both children began to suffer from conjunctivitis, which did not yield to treatment until they had moved to another apartment. Mr. Image also gives the case of a young lady of 23, who went to a ball in a bright green tarlatan dress, and on the following morning woke up with severe headache, soreness of eyes, and colicky pains in the abdomen. The symptoms passed off, but returned again after the next ball. The dress was found to contain a considerable amount of Scheele's green, loosely attached to the fibres of the material. In a third case, a woman of 47, after living for six weeks in a room which had recently been papered with a dull grayish artistic green with red pomegranates, began to suffer pain in the right supra-orbital branch of the fifth nerve, which gradually became more severe. Quinine was of no avail, and Fowler's solution, subsequently administered, made her worse. The wall-paper having been examined proved to contain arsenic, though guaranteed by the seller to be free from this poison. The room was re-papered, and the woman rapidly recovered her health without any medicine.

Picrotoxine in the Night-Sweats of Phthisis.—Quite recently Dr. Murrell has introduced picrotoxine as a remedy for the night-sweating of phthisis. He uses a 1 in 240 solution in water, and of this he gives from one to four minims three times a day, the last dose being taken at bedtime, or immediately before the time at which the perspiration usually commences. He has employed this mode of treatment in twenty cases with only one failure. The sweating is usually arrested in two or three days, and there is no return for a fortnight or more. The picrotoxine is best given alone and not in a mixture, and it has been found to succeed after oxide of zinc, belladonna, Dover's powder, and other remedies have failed. A great advantage of the treatment is that it does not make the skin too dry, but leaves it comfortably moist, whilst not unfrequently atropia appears to parch it up. The aqueous solution is apt to deposit crystals in winter, but it soon clears up on warming.

A Good Tape-Worm Remedy.—Drs. R. Elben and J. Mainzer, of Stuttgart, in the *Würt. Corr. Blatt*, report excellent results from the administration of the ethereal extract of filix mas, or male fern, in ten-gramme (ʒiij) doses, for the expulsion of tape-worm.

The remedy should not be taken during the menstrual period or during any severe illness. In the evening, before taking it, the supper should consist of oatmeal gruel, and a cup of wormwood tea with a tablespoonful of Epsom salts should be drunk. The remedy must be taken before breakfast in the morning. The contents of vial No. 1 (ext. fil. mar. æth., ʒiij) should first be swallowed, after having warmed it a little, and vial No. 2 (ol. ricini, ʒivss) must be taken two minutes afterwards. After the first stool another cup of wormwood tea with Epsom salts should be drunk. A cup of coffee without milk or sugar may be taken immediately after the medicine, or a lemon may be sucked, to remove the disagreeable taste.—*Medical Press and Circular.*

Citrate of Caffein as a Sedative Anodyne and Diuretic.—Dr. L. Shapter (*Brain*, October, 1879) gives this drug, in doses of three to five grains, to induce co-ordinate action of the heart, to increase vascular pressure, to promote free and almost instantaneous diuresis, and to stimulate a heart gradually being relieved of its source of embarrassment to a more vigorous and forcible circulation. It is thus an aid to the action of digitalis. Caffein, by its diuretic virtues and its power of promoting equilibrium in the cardiac and general circulation, paves the way for the safe and efficient use of cardiac tonics. With such powers it is indicated in the melancholia of brain-workers, in the depression of spirits of drunkards, and in asthenic mania, as well as in cases of heart disease.

Is Aconite a Diuretic?—Dr. G. Hunter Mackenzie (*Practitioner*, January) has endeavored to answer this question by examining the amount of urine excreted in certain cases of patients suffering with aortic and other diseases of the circulation, and in others apparently healthy, before and after the administration of the drug. In cases where cardiac and renal disease were present, a decrease in the daily amount of urine secreted was noted, while where these did not exist, and in certain febrile conditions, the urinary secretion was increased by the aconite. The failure of the drug in the former cases may be partially attributed to the congestion of the kidneys being so great as to render increased secretion impossible. The fact remains, however, that the remedy failed where its action was most urgently needed.

Salicylic Acid in Lumbago.—Dr. Calfee, of Arkansas, gave a patient one hundred and twenty grains of salicylic acid in two ounces of glycerin, of which one teaspoonful was taken every two hours. Cure in twenty-four hours.

MISCELLANY.

Cerebral Thermometry (Maragliano and Sappilli).—1. The mean temperature of a healthy man's head—taking our observations—is 36.13° for the left side and 36.08° for the right, and 36.10° for the whole head. As to the various regions, the means of the frontal lobe are represented by 36.20° for the left side and 36.15° for the right; the parietal lobe by 36.18° for the left side and 36.15° for the right; the occipital lobe by 36.13° for the left side and 36.08° for the right.

2. In the insane, with the exception of simple lipemania and dementia, the mean temperature of the head is superior to the normal.

3. The highest figure is met with in *mania cum furore* (36.89°); then follow in succession *lipemania agitata* (36.81°); progressive paralysis (36.63°); *dementia agitata* (36.45°); imbecility and idiocy (36.34°); *mania sine furore* (36.30°); *lipemania simplex* (36.17°); *dementia simplex* (36.03°).

4. In all forms of mental disease, the occipital lobes, as in the healthy state, present a lower temperature than the others. The temperature of the frontal lobes, which equals that of the parietal in dementia agitata, imbecility, and idiocy, exceeds it in mania, simple lipemania, and simple dementia; but in progressive paralysis and lipemania agitata the temperature of the parietal lobes is superior to that of the frontal.

5. In all the chief groups of mental disease the mean of the two sides of the head is almost equal, with the exception of the congenital forms, in which the various regions of the right side present a figure superior to that of the left.

6. The results of cerebral thermometry, compared with our present knowledge of the pathological anatomy of insanity, are confirmed by the fact that in general paralysis, in mania, and in the various periods of exaltation which are so frequently manifested, as well as in the forms of depression and mental debility, a hyperæmic state of the brain exists.

7. The surrounding temperature exerts a notable influence upon the results of cerebral thermometry.

8. The general temperature of the body in the insane, taken in the axilla or the rectum, is greatest in lipemania agitata and in mania furiosa, and diminishes in decreasing order in progressive paralysis, dementia agitata, mania sine furore, imbecility and idiocy, tranquil dementia, and simple lipemania.—*Rivista Sperimentale di Freniatria e di Medicina Legale.—Canadian Journal of Medical Science.*

French Views of Syphilis.—A French journal, *L'Année Médicale*, of Caen, has in its last few issues had some excellent lectures on syphilis by Dr. Denis-Dumont, surgeon-in-chief of the Hôtel-Dieu of that city. In concluding his last one he says, "These three conclusions contain the result of our study of syphilis: a *unity* of origin of all syphilitic maladies; the *incurability* of the disease, when the immense variety of its effects is considered; and, as a logical consequence, an indefinite *continuance* of treatment, with occasional interruptions."

These discouraging views, we believe, are those now generally prevalent in France. They are forced upon surgeons by constant discoveries of hitherto unobserved connections of pathological changes with previous syphilitic poisoning; and probably those discoveries are by no means complete.—*Medical Press and Circular.*

Not a Disciple of Lister.—Dr. Wolfe, the ophthalmologist, says, "When one Parisian oculist, in presence of his students, shoves carbolic acid ointment into a suppurating cornea to kill bacteria, and dips his cataract-knife into an acid solution (to blunt the edge, I suppose), and other honored members of our profession operate on cataract to the tune of the playing of the bellows to frighten away the animalcules in the air, I consider the incisive remarks of the *Centralblatt* on this species of 'Schwärmerei' are seasonable indeed."

"Free Consultation" Prizes.—Among the prizes of a lottery recently held in Paris are mentioned a number of vouchers entitling the holders to gratuitous consultations with eminent Paris physicians. There were also several franks issued by licensed midwives of renown, which conferred upon the holders the right of applying for the services of these ladies upon interesting occasions. It is said that the latter were eagerly competed for at a subsequent auction.

New York Charities.—About five millions of dollars are expended in charity and pauper relief of various kinds in New York City each year. Nearly one-half of this is raised by taxation, the rest being donated by charitable persons.

According to official statistics, Paris, Naples, St. Petersburg, and Rome are at the present time the most unhealthy cities in Christendom. Paris shows a death-rate of 40, Naples 45, St. Petersburg 51, and Rome 56 per 1000 of the population.

It is said that fully one-third of the inhabitants of Brighton, England, receive gratuitous medical treatment.

A woman in Birmingham was poisoned, not long ago, by taking oleum phosphoratum, which had been sent to her by a careless apothecary instead of the phosphorized cod-liver oil prescribed by her physician.

W. H. Weeks reports a case (*London Lancet*, February, p. 351) which he believes to have been typhoid fever aborted by the free continued use of carbolic acid.

The antivivisection bill of Bergh has been adversely reported in the New York Legislature,—a proof that not all men are victims of total depravity.

The latest new ligature is made of tendons of kangaroo tails.

NOTES AND QUERIES.

CODE OF ETHICS OF THE MASSACHUSETTS MEDICAL SOCIETY.

(Adopted by the Councillors, February 4, 1880.)

Object of a Code of Ethics.—The Massachusetts Medical Society is designed to secure to the public a body of well-educated and otherwise trustworthy physicians. Its code of ethics is intended to furnish certain principles and rules of action for their guidance and convenience.

I. *The Relation of the Physician to Medical Science.*—A physician should lend his influence to encourage sound medical education, and to uphold in the community correct views of the powers and the limitations of medical science and art.

II. *The Relation of the Physician to Medical Business.*—The professional success of a practitioner depends upon qualities connected with his moral character, his scientific attainments, and also his industry and business talent. But the relation of practitioners of medicine to families and households is not like that of tradesmen to their customers. The kind of competition which might be considered honorable in business cannot exist between physicians without diminishing their usefulness and lowering the standing of the medical profession.

III. *The Relation of the Physician to his Patients.*—The first duty of the practising physician is to his patient, who has a right to expect that his disease shall be thoroughly investigated and skilfully treated, with charitable consideration for his mental peculiarities or infirmities, and in a relation strictly confidential.

1. The physician should not make unnecessary visits. He should neither permit needless apprehension nor fail to give seasonable notice of danger.

IV. *The Relation of the Physician to other Practitioners and to their Patients.*—In his relations with another medical practitioner and his patients, a physician should be governed by strict rules of honor and courtesy. His conduct should be such as, if universally imitated, would insure the mutual confidence of all medical practitioners.

The foregoing rule should be a sufficient guide of action. Some of the following contingencies will illustrate its application:

1. A physician should take no step with a view directly or indirectly to divert to himself the patient or practice of another physician.

2. If formally requested to assume charge of a patient or family usually attended by another physician, he should consent to do so only after notifying the latter,—unless the case be one of pressing necessity.

3. If a physician is called to a patient during the temporary absence or illness of the usual physician, or in case of accident or other emergency, he should direct that the former be sent for as soon as he is able to take charge of the case, and should then relinquish it to him. It is generally agreed that, among several physicians thus called, he who first arrives shall act, unless the family designate another.

4. A communication from the temporary to the usual physician, in the absence of the latter, should be written and sealed, and not simply verbal.

V. *The Relation of the Physician to Quackery.*—In every community there are minds naturally inclined to quackery, which has flourished in every age. It grows by being noticed, and thrives best under opposition. It is commonly unwise to employ argument against it. But a physician should lend his influence to establish a distinct line between the regular practice of medicine and the practice of quackery, and should avoid any act which might tend to weaken such a distinction either in the professional or in the public mind.

1. Thus, he should not consult with an irregular practitioner (*see By-Laws*); nor countenance the use of secret remedies; nor be interested in medical trade-marked preparations; nor give certificates recommending mineral waters, patents, or medical preparations, or the like; nor give a commission to an apothecary, nor receive one from him; nor advertise himself or his practice in public print; nor publicly advertise advice or medicines to the poor, etc.

VI. *Consultations should be encouraged in cases of unusual responsibility and doubt.*

A consultation is called for the benefit of the patient, and to give him the advantage of collective skill. Should there be a difference of opinion, discussion should be temperate and always confidential.

A consulting physician should be careful to say or do nothing to impair the confidence of the patient or his family in the attending physician.

1. See, for guidance of a consultant, IV., §§ 1, 2, 3, 4.

2. At a consultation punctuality is important, and nonarrival within fifteen minutes after the appointed time should be interpreted as non-attendance.

3. For the advantage of the patient, and for economy of time, it is well, in a consultation, to observe a certain order of business. The following has been found convenient:

The attending physician, having stated in general terms the nature of the case, may then call, in turn, upon each consultant, if there be more than one, to examine the patient, the usual order being that of seniority. No consultant should make an examination or inquiry out of turn. On retiring, the attending physician may invite, in the usual order, the opinion of each consultant, who should not be interrupted while giving it; after which he may add his own. In conclusion a course of action may be agreed on, or the attending physician may be left to act at his own discretion.

VII. *Fees.*—A fee-table has a local application, and is designed to indicate a fair or average amount due for services. But if the patient fully understands it beforehand, a physician is at liberty to place any price he sees fit upon his services. It is then at the patient's option to decline them or to pay the price. A physician should be considerate of the poor.

1. A patient in moderate circumstances should not be called on to pay a fee unusually large for the service rendered, without a previous explicit understanding. A physician, if able, should offer to pay the medical attendant of himself or his family. Unless by special agreement, a physician attending or acting for another should receive the fees. Among obstetricians a rule obtains that the interval between the birth of the child and of the placenta halves the service and the fee. A fee should be charged for a medical certificate or paper of value to the applicant,—connected, for example, with absence or exemption, life insurance, pension papers, etc., except the usual certificates of vaccination and death.

VIII. *Seniority.*—Seniority applies rather to duration of practice at the place in question than to age.—*Boston Medical and Surgical Journal.*

HYDRATE OF CHLORAL.

Dr. H. H. Kane, of New York City, specially requests members of the profession with any experience whatever in the use of the hydrate of chloral to answer the following questions, and give any information they may possess with reference to the literature of the subject:

1. What is your usual commencing dose?
2. What is the largest amount you have administered at one dose, and the largest amount in twenty-four hours?
3. In what diseases have you used it (by the mouth, rectum, or hypodermically), and with what results?
4. Have you known it to affect the sight?
5. Have you ever seen cutaneous eruptions produced by it?
6. Do you know of any instances where death resulted from or was attributed to its use? If so, please give full particulars as to disease for which given; condition of pulse, pupils, respiration, and *temperature;* manner of death; condition of heart, lungs, and kidneys; general condition, age, temperament, employment, etc., etc., etc. If an autopsy was held, please state the condition there found.
7. Have you seen any peculiar manifestations from chloral, —as tetanus, convulsions, or delirium?
8. Do you know of any cases of the chloral-habit? If so, please state the amount used, the disease for which the drug was originally administered, the person's temperament, and the present condition of the patient.

Physicians are earnestly requested to answer the above questions fully, especially 6 and 8, in order that the resulting statistics may be as valuable as possible.

All communications will be considered strictly confidential, the writer's name not being used when a request to that effect is made. Address all letters to Dr. H. H. Kane, 366 Bleecker Street, New York City.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MARCH 20 TO APRIL 3, 1880.

Perin, G., Lieutenant-Colonel and Surgeon.—Upon being relieved by Surgeon Magruder, to report in person to Commanding General, Department of Dakota, for duty as Medical Director of that Department. S. O. 63, A. G. O., March 22, 1880.

Magruder, D. L., Major and Surgeon.—Relieved from duty in St. Louis, Mo., and to report in person to Commanding General, Department of the Missouri, for duty as Medical Director of that Department, relieving Surgeon Glover Perin. S. O. 63, c. s., A. G. O.

Byrne, C. C., Major and Surgeon.—In addition to his present duties as Post-Surgeon, Fort Snelling, Minn., to take charge temporarily of the Medical Director's office at these Headquarters. S. O. 30, Department of Dakota, March 20, 1880.

Brewer, J. W., Captain and Assistant-Surgeon.—The sick-leave granted him from A. G. O., September 22, 1879, extended three months on Surgeon's certificate of disability. S. O. 67, A. G. O., March 26, 1880.

De Witt, C., Captain and Assistant-Surgeon.—To accompany Company B, Ninth Infantry, from Fort Sidney, Neb., to Fort Niobrara, and report to the Commanding Officer thereat for duty. S. O. 26, Department of the Platte, March 26, 1880.

Girard, J. B., Captain and Assistant-Surgeon, Fort Davis, Texas.—Granted leave of absence for twenty-five days, with permission to go beyond the limits of the Department. S. O. 55, Department of Texas, March 16, 1880.

Moseley, E. B., Captain and Assistant-Surgeon.—Having relinquished remainder of leave of absence, relieved from duty with Ute Expedition, and assigned to duty at Fort Sidney, Neb. S. O. 26, c. s., Department of the Platte.

McCreery, George, First-Lieutenant and Assistant-Surgeon (recently appointed), now at Fort Columbus, New York Harbor.—To report in person to Commanding Officer, Department of Arizona, for assignment to duty. S. O. 63, c. s., A. G. O.

Schué, E. D., First-Lieutenant and Assistant-Surgeon (recently appointed), now at David's Island, New York Harbor.—To report in person to Commanding Officer, Department of Arizona, for assignment to duty. S. O. 63, c. s., A. G. O.

Newton, R. C., First-Lieutenant and Assistant-Surgeon (recently appointed), now at Fort Stanton, New Mexico.—To report by letter to Commanding General, Department of the Missouri, for assignment to duty. S. O. 63, c. s., A. G. O.

Cochran, J. J., First-Lieutenant and Assistant-Surgeon (recently appointed), now at Fort Wingate, New Mexico.—To report by letter to Commanding General, Department of the Missouri, for assignment to duty. S. O. 63, c. s., A. G. O.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, APRIL 24, 1880.

ORIGINAL LECTURES.

ON POST-MORTEM EXAMINATIONS OF THE BRAIN.

Delivered before the Philadelphia County Medical Society, February 11, 1880,

BY CHARLES K. MILLS, M.D.,
Neurologist to the Philadelphia Hospital.

GENTLEMEN,—With Ecker, I believe that the great problem of an organology of the cerebral surface rests in great part in the hands of physicians. The functions of the ganglia and tracts of the interior of the cerebrum, and of the other subdivisions of the brain, are also to be largely settled by them through post-mortem investigations. For this reason, I trust my subject this evening may prove of interest. In addition, as strictly practical men, on the principle that what is worth doing is worth doing well, the best methods of making cerebral autopsies deserve our attention. Special morbid conditions will only be incidentally referred to, my object being to discuss methods and not lesions. I am fortunate in having the opportunity to exhibit to you numerous specimens, and, with the assistance of Dr. Leffmann, will be able to illustrate some of the facts presented by projections on the screen.

To prevent mutilation of the hair the incision through the scalp should be made from within outwards. The temporal muscles should be left behind, as a few stitches through them will assist subsequently in holding the skull-cap in position. The bones should be sawed not quite through, finishing with chisel, mallet, and hook, thus avoiding injury to the meninges and brain. Sometimes it may be necessary to dissect the dura from the calvaria, or to remove the latter and the convex portion of the membrane together. As a rule, the best procedure is to cut through the dura mater along the track of the saw, and afterwards, separating the falx from the crista galli, to detach the convexity of the membrane from the brain as far back as the tentorium. Proceeding from before backwards, the various nerves, vessels, etc., can then be severed one after the other, and when the tentorium is reached, a single incision through it, on each side, is all that is necessary. Remaining nerves and vessels should now be divided with the knife, or with fine scissors with long shanks, and the spinal cord should be cut across as low down as possible. During the whole process the brain should be thoroughly supported on all sides.

Griesinger recommends in some cases, especially in children, sawing through bone and brain together; but this is a method not often applicable.

It may be advisable in some instances, after removing the calvaria and convex dura, to examine the brain while in position. To do this, its upper surface should be kept as nearly level as possible, and some of the incisions which I shall hereafter describe should be used to open the ventricles. A syringe with a long nozzle can be employed to withdraw fluid from the ventricles, a procedure suggested by Dr. Harrison Allen, in a review of "Delafield's Handbook" (*American Journal of the Medical Sciences*, July, 1873). In order to determine the amount of fluid within the skull, a vessel should be constantly kept in a position to catch all that escapes; this to be afterwards added to the quantity found in the ventricles and floor of the skull.

An examination of the sawn edges of the bones, and of the inner surface and floor of the skull, should never be neglected, the foramen magnum and the sella Turcica receiving especial attention. The pituitary body can be dissected out of the latter after the removal of the brain, or, with careful handling, it can be taken out without breaking its connections. It is not infrequently important to examine the Casserian ganglion and the portions of the cranial nerves remaining behind in the skull grooves and cavities.

The convex portion of the dura mater has been in part inspected before the removal of the brain, and the investigation should now be carefully completed.

In the present state of our knowledge it is better to follow Rokitansky, Rindfleisch, Huguenin, and other good authorities, in not considering the arachnoid, for pathological purposes, at least, as a distinct membrane.

Both surfaces of the pia mater should be examined. Precision and fulness should be studied in describing the condition of vessels, both with reference to their walls and to their contents. You must depend largely upon your anatomical knowledge in determining whether vessels are arteries or veins. The vessels of the circle of Willis and their branches should be examined closely for embolisms, aneurismal dilatations, and evidences of degeneration. An occluded artery can often be made out by its attenuated, cord-like look beyond the seat of closure.

The state both of tissues and vessels with reference to blood must be thoughtfully considered. An apparent hyperæmia has often no real ante-mortem significance. Fulness of vessels situated posteriorly is often simply the result of position, what is known as hypostatic congestion.

I will next proceed in greater detail with the consideration of the methods of examining the convolutions and the ganglia and tracts of the cerebrum, this being a portion of the subject about which the mass of the profession seems to have the least exact knowledge.

I not infrequently meet, in journals and text-books, with records of autopsies which contain descriptions of lesions occurring in such indefinite localities as anterior, middle, or posterior lobes. Such vagueness is certainly no longer excusable. The works of Ecker, Charcot, Ferrier, Richet, and others, have made cerebral landmarks so plain that all that will may see and know.

After the examination of the pia mater and its vessels, the membrane should be removed, unless, for some special reason, it is considered desirable to leave it in position. The convolutions, however, cannot be thoroughly examined unless they are stripped. The removal of the pia mater can be done under water, but, as Ecker remarks, the stay of the brain in water must be limited, as it otherwise becomes too soft by imbibition. With a little care and patience the operation can usually be readily accomplished out of water. With a pair of fine forceps in each hand, the membrane and its vessels can be pulled out of any convenient sulcus, and adjoining crests and depressions uncovered. If a large surface be held together, the finger can sometimes be substituted with advantage for the forceps. Watchfulness should be exercised in regard to tearing away fragments of cortical substance.

Certain general conditions likely to occur should not be overlooked. Sometimes large areas of the surface are flattened and changed in color, sometimes the convolutions are narrower than they should be; the fissures and sulci sometimes have a greater or less depth than is normal; hemorrhages, exudations, or abnormal growths may be present.

In pathological cases it will not always be possible to follow any fixed routine in examining the convolutions, the discovery of lesions compelling us to modify and change our methods; but, whenever feasible, some general system, like that recommended by Ecker in the appendix to his monograph, should be pursued, proceeding from the more to the less important fissures, convolutions, and regions. The physician acquainted with the brain only from books may at first find that, with the exception of a few of the great furrows and folds, the convoluted surface before him seems a tantalizing labyrinth. He errs in expecting that regularity which is seen only in schemes and diagrams. Convolutions change more or less after birth; no two adult brains have exactly the same surfaces. Secondary and tertiary fissures and convolutions vary greatly, and even the primary often present exceptional appearances. The great Sylvian cleft is easy of recognition. The central fissure, or fissure of Rolando, is scarcely ever hard to pick out. It is usually a deep, unbridged furrow, about three inches in length, running from above downwards and a little forwards, nearly midway of the hemispheres, beginning close to the longitudinal fissure and extending nearly to the Sylvian. I have never seen it bridged, although a few examples of this occurrence are on record. Not infrequently it passes into the longitudinal fissure, sometimes with and sometimes without bridging fibres below the surface-level. Rarely, indeed, does it run into the Sylvian fissure; and yet I have seen this once in a white brain, a note of which was made for me to the Philadelphia Academy of Natural Sciences, by Professor A. J. Parker, of the University of Pennsylvania. Professor Parker has also observed this anomaly in another case; Turner has recorded a third instance (*The Convolutions of the Human Brain, topographically considered*, p. 10, Edinburgh, 1866); and Professor Macalister has made a fourth similar observation (*Proc. Dublin Univ. Biol. Assoc.*, vol. i. No. 2, p. 25, quoted by John C. Galton in *Brain*, October, 1878, p. 384). These facts should guard you against confusion from occasional deviations, and also stimulate you to be on the alert to make additions to morphology. A fissure may appear to open completely into another, a bridge being revealed by pulling aside overlapping edges. The fissure most likely to be mistaken for that of Rolando is, I think, the vertical frontal, which is sometimes long and deep.

The first frontal and the interparietal fissure, which have bold, continuous outlines in Ecker's plates, are often bridged at one or more points, but these broken fissures should be regarded as one. The parieto-occipital, calcarine, and parallel, or first temporal, fissures are nearly always deep, uninterrupted trenches. The latter usually curves upwards in the parietal lobe, not far behind the end of the Sylvian fissure. Recently, however, I saw the brain of a white man in which the end of the parallel fissure, which was deep and absolutely continuous, extended back of the transverse occipital and to within half an inch of the longitudinal fissure. Such observations have an important bearing upon the location of lesions with reference to the position of cortical centres. In a case like this, for instance, the psycho-sensory centres of vision would be located in the angular gyrus, and, at the same time, in the occipital lobe, instead of in the parieto-temporal region, their usual position. Ferrier placed the visual centres in the angular gyrus; Munk in the occipital lobe; Luciani and Tamburini concluded that they were situated in both (*Studii clinici sui Centri sensori corticali*, *Communicazione preventiva dei Professori Luigi Luciani e Augusto Tamburini*. Milan, 1879, quoted in *Brain*, Part VIII., January, 1880). It is not improbable that, when the psycho-sensory centres of vision have been found in the occipital lobe, the angular gyrus has, in whole or in part, been situated in the same region.

In regard to post-mortem examinations, the practical point is, that whenever you have marked deviations or variations of fissures or convolutions, these should be noted with the descriptions of the lesions. By thus conjoining morphological with pathological study, many apparently contradictory facts can be explained.

I will say a few words only about special lobes and convolutions. The island of Reil cannot be studied until the Sylvian fissure is drawn well apart, although it is not as completely covered in the negro as in the white brain, a fact to which my attention was first directed by Dr. Parker. It should be examined from the base, although a glimpse of it can be had from the side by pulling asunder the operculum and upper part of the temporal lobe. In exploring the third frontal convolution, great care should be exercised in making out its exact boundaries. The ascending convolutions, on each side of Rolando's fissure, are usually well defined. It is important to inspect closely the occipito-temporal convolutions, for here, it is supposed, are located those centres of sensation on which pathology has as yet thrown so little light.

Let us next turn to the interior of the cerebrum. Slicing off the hemispheres, or cutting out blocks of brain substance, down to the lateral ventricle, is a plan not to be recommended, as autopsies should be made, whenever possible, so as to allow the brain to be drawn together again on their completion. The lateral ventricle can be entered by a perpendicular incision into the corpus callosum on each side of its raphé, as advised by Virchow. I prefer, however, to make an incision into the median face of the hemisphere, downwards and slightly outwards, along the lower edge of the calloso-marginal fissure. The middle portion of the brain will remain more firmly together as you proceed if some of the hemispheric matter is thus left in connection with the corpus callosum. Dr. Allen, in the review referred to, recommends the incision for opening the lateral ventricle to be made directly downwards from the vertex of the brain, about six lines to the outer side of the great longitudinal fissure; but the convolutions will be greatly disarranged by such a section, and the examination of interior portions will not be as readily carried out as after the other two methods which I have given. The body of the ventricle and the surface of the great ganglia being brought into view, the anterior and posterior horns should next be fully exposed by further incisions, and everything in sight thoroughly examined. The middle horn can be opened out or not, according to the wishes or objects of the operator. The ventricle of the opposite side should now be entered and its contents investigated. The condition of the septum lucidum should be noted, and after this a small sharp knife should be introduced into the foramen of Monro, and the septum lucidum and corpus callosum should be cut through upwards, the portions anterior and posterior to the section being turned forwards and backwards, respectively. The velum interpositum and its choroid plexuses should be lifted up, and the third ventricle, pineal gland, and corpora quadrigemina examined.

Before taking up the next step—the examination of centrum ovale, ganglia, and capsules—it will be well to recall a few anatomical points. The præ-frontal and occipital regions of the brain present only convolutions and white matter, but between these is a most important and somewhat complicated region. What is commonly regarded as the corpus striatum is the pear-shaped, anterior gray surface mass of the lateral ventricle. Strictly, however, this is the nucleus caudatus or intraventricular portion of the corpus striatum; it has comparatively little depth, and is sometimes spoken of as the corpus striatum proper. Even this part of the ganglion does not terminate, as many suppose, at the posterior border of the optic thalamus, but the tail-like prolongation curves downwards into the middle or inferior horn, encircling the crus cerebri and parts within and above with a narrow gray band called the surcingle, which runs as far forwards below as the point where the corpus striatum begins above, terminating in the amygdala, a deposit of gray matter which is continuous with the convolutions of the base immediately behind the Sylvian fissure. Within and posterior to the intraventricular striate body is the optic thalamus, which has a much greater depth. Below both caudate nucleus and optic thalamus, and separated from them, except at the anterior end of the former, by white matter, is another gray ganglion,—the lenticular nucleus. By many, caudate and lenticular nuclei together are looked upon as constituting one great ganglionic mass,—the corpus striatum; but whatever morphological view may be taken of these bodies, it is best in describing lesions to designate them separately. To use the figure of Charcot, a good strategic chart cannot be too complete. The lenticular nucleus itself consists of three segments with a little white substance between them, and, when possible, the precise position of lesions, even with reference to these subdivisions, should be indicated. The white mass to which I have referred as between the caudate nucleus and optic thalamus above and to the inside, and the lenticular nucleus below and without, is the internal capsule, a prolongation of a portion of the crus cerebri. Outside of the lenticular nucleus is another narrower white bundle,—the external capsule; beyond this, a gray band,—the claustrum; still farther outwards, some unnamed white fibres; and, finally, gray cortical matter. At some points, also, it will follow, from the description which I have given, that near to the convolutions, but separated from them by white strands, the gray loop, called the surcingle, will appear. Into lengthier anatomical details I cannot go, but for them must refer you to the books and the dissecting-room.

What I wish particularly to impress, in connection with these anatomical facts, is that all the parts described can be brought into view for study and investigation by perpendicular incisions across the brain,—in other words, by vertico-transverse sections; and such sections can therefore be usefully employed in our post-mortem examinations. M. Pitres describes a series of six vertical transverse sections, which should be studied in order that you may become familiar with normal appearances, and which indicate good positions for your first set of incisions in autopsies. The first is made through the præ-frontal region, the second through the bases of the three frontal convolutions, the third through the ascending frontal convolution, the fourth through the ascending parietal convolution, the fifth through the superior and inferior parietal lobules, and the sixth through the occipital lobe. (Ferrier's "Localization of Cerebral Disease," p. 49.) Your incisions should be made in each hemisphere, from within outwards nearly to the convolutions. Of course, in cutting from within, you cannot so readily use the convolution as a guide; but sections about an inch apart will be practically correct. If by any of them a lesion should be revealed, note its exact limitations. Ascertain whether it is continuous to the next primary section, anterior or posterior, and, if not, repeat incisions until its precise extent is made out.

Instead of vertico-transverse you may sometimes employ vertico-longitudinal sections. In this method, beginning at the cerebral peduncles, smooth incisions long and deep enough to expose all the parts to within a few lines of the convolutions of the base should be carried through both optic thalamus and corpus striatum and out into the hemispheres, a few extra sections being made in the white matter above the level of the ventricles.

It may sometimes be desirable to examine the interior of the cerebrum from the base, which can be readily done, particularly if you have a fair knowledge of the relations of the fissures and convolutions of the surface to internal eminences and cavities. The great transverse fissure, or fissure of Bichat, will serve as a place of departure. By cutting from it along the line of the calcarine fissure, the posterior cornu can be laid open, the middle horn being exposed by an incision along the hippocampal fissure. The crus cerebri on each side should next be divided, the pons, medulla oblongata, and cerebellum being removed as a separate specimen. The body of the ventricle and the anterior horn are now readily entered, and transverse incisions into the hemisphere can be made. Care must be taken not to destroy the central parts of the base.

Mynert has a method of examining the brain which is followed by many specialists in mental disease, a description of which I will give you from Orth's "Compend of Diagnosis in Pathological Anatomy." The chief end to be gained is the determination of the weight of each of the three great portions of the brain, taken separately. These three portions are (1) the brain-covering, which is composed of the cerebral lobes, olfactory nerves, corpus callosum, fornix, and septum lucidum; (2) the brain-stem, consisting of all parts below those mentioned, except the cerebellum; and (3) the cerebellum. "The pia mater is not removed, but the brain being placed with its base upwards, the islands of Reil are dissected away from their attachments so freely as to allow the three fissures which bound each of them to be clearly seen. The pia over the great transverse fissure is then detached laterally and behind, so that on raising the medulla oblongata, pons, and cerebellum, the descending cornu of the lateral ventricle may be directly exposed. The anterior portion of the parietal lobe is next grasped, drawn somewhat backwards, and its connection with the stem cut through by keeping close to the posterior furrow of the island of Reil externally, and to the outer wall of the descending cornu internally. The island is then separated from its base by holding the knife nearly horizontal and cutting through the outer limiting furrow, care being taken to keep close to the outer angle of the lateral ventricle formed by the corpus callosum and the great cerebral ganglia, which may readily be seen by lifting the cerebral stem. These cuts having been made on both sides, the knife is passed into the longitudinal fissure, and a horizontal section (parallel with the orbital surface of the frontal lobes, and about three centimetres deep) is made through the depression just in front of the anterior perforated space, then following the anterior furrow of the island of Reil, with a slight curve concave outwards until the cut previously made through the outer furrow is met. The stem and cerebellum are now raised and made tense, the pillars of the fornix and the septum lucidum are cut through from below, just in front of the anterior commissure, and finally the brain stem is completely detached by separating from below the remaining adhesion in front of the corpus striatum. This portion is readily separated from the cerebellum by cutting through the several processes connecting the two."

The cerebellum, pons varolii, and medulla oblongata can be examined either while still in connection with the higher brain, or after they have been removed by cutting across the crura cerebri. If any superficial lesions be present on the upper surface of the cerebellum, their exact location with reference to the hemispheres and to the superior vermiform process should be noted. This process, the upper part of the median lobe, is of more importance since Nothnagel (*Berl. Klin. Wochen.*, April 15, 1878) has shown that it is the one region of the cerebellum about which we have definite clinico-pathological information, disturbances of co-ordination occurring when it is diseased. Continuing the examination, an incision should be carried from above downwards through the middle of the median lobe, taking care not to wound the floor of the fourth ventricle. In describing lesions, reference should be made to known anatomical subdivisions,—in the median lobe, to nodule, uvula, pyramid, etc.; in the hemispheres, to flocculus, tonsil, digastric, slender, and inferior posterior lobes. It is too much the habit to speak simply of lesions in the right, left, or median lobe. After the perpendicular median section, further incisions can be made outwards in the direction of the middle cerebellar peduncle, or the cuts, for special reasons, may be either longitudinal or transverse. The cerebellum can be examined alone, by first carefully separating its under surface from the medulla oblongata and pons, and then cutting across one after the other the inferior, middle, and superior peduncles. Internally, it is necessary to localize lesions of the cerebellum with reference to its central stem of white matter and its gray cortical laminæ, particular attention being paid to the corpus dentatum, the only ganglion of the cerebellum, which lies a little within the centre of the stem of white matter.

The floor of the fourth ventricle, which is exposed by the median section through the cerebellum, or which can be studied after the separation of the cerebellum from the pons and medulla, should always be minutely explored, for here are often found most interesting lesions, both primary and secondary, in cases of cerebral, spinal, and cerebro-spinal disease. Superficial blood-clots, extravasations of blood into the brain substance, areas of true congestion, foci of softening, exudations and growths, and sclerotic patches, are some of the forms of lesions which I have had the opportunity of studying macroscopically in this region. Descriptions of lesions here should be definite and accurate; and they can be easily made so by taking for points of departure such readily recognizable landmarks as the median furrow, the medullary striæ, or lineæ transversæ, the locus cæruleus above, and the ala cinerea below. The distance in lines or millimetres of lesions from such landmarks should be mentioned.

NOTE.—In addition to the references in the text, I would call attention to the following works, which have been consulted in the preparation of this lecture:

Ecker: The Cerebral Convolutions of Man. Translated by R. T. Edes, M.D. New York, D. Appleton & Co., 1873.

Virchow: Post-Mortem Examinations. Philadelphia, Lindsay & Blakiston, 1877.

Charcot: Lectures on Localization in Diseases of the Brain. Edited by Bourneville. Translated by E. P. Fowler, M.D. New York, William Wood & Co., 1878.

Richet: Physiology and Histology of the Cerebral Convolutions. Translated by E. P. Fowler, M.D. New York, William Wood & Co., 1879.

Delafield: A Hand-Book of Post-Mortem Examinations and Morbid Anatomy. New York, Wm. Wood & Co., 1872.

Orth: A Compend of Diagnosis in Pathological Anatomy, with Directions for making Post-Mortem Examinations. Translated by Shattuck & Sabine, and revised by Fitz. New York, Hurd & Houghton, 1878.

Holden: Manual of the Dissection of the Human Body. Philadelphia, Lindsay & Blakiston, 1879.

ORIGINAL COMMUNICATIONS.

NOTES ON ANÆSTHETICS—CHLORIDE AND BROMIDE OF ETHYL.

BY H. C. WOOD, M.D.

THE papers of Drs. Turnbull and Levis upon the bromide of ethyl have attracted so much attention that I consider no apology necessary for laying before the profession certain experiments which I have recently made with it and one or two other anæsthetic liquids, although the study is by no means an exhaustive one.

The first substance to be spoken of is the *chloride of ethyl*. This boils at so low a temperature as to unfit it for use in a pure state. To overcome this difficulty, Dr. Greene, Demonstrator of Chemistry in the Medical Department of the University, suggested the addition of alcohol to the chloride, and prepared for me such a mixture. The vapor of this, when inhaled by myself, produced at once cerebral symptoms similar to those of the beginnings of etherization, but no attempt has been made to produce complete anæsthesia with it upon man. The following experiment shows, however, that the chloride offers little promise of being a serviceable anæsthetic:

Exp. I.—A Large Dog.

Time. M. Sec.	Art. Press. Mm.	Remarks.
0.	65–70	Chloride of ethyl and alcohol.
0.45		Fluidrachm.
1.30	65–90	
2.	65–70	Fluidrachm.
3.	70–80	Dog quiet, breathing deep and slow; pupils widely dilated, conjunctival reflex diminished.
4.	70–80	
4.15	75–85	Dog as at last entry.
6.	70–80	Fluidrachm.
6.30	75–85	Fluidrachm.
7.	90–95	
8.		Three fluidrachms.
9.	Clot.	
13.		Dog has not been anæsthetized at all.

There are one or two remarks to be made concerning this experiment. In this and all the experiments hereafter detailed the inhalation was practised by fitting a tin tube, with cloth, etc., closely over the snout of the animal, and filling with a fine sponge this tube in such a way that the animal was forced to breathe in and out through the sponge upon which the anæsthetic was placed. The chloride is, however, so volatile that it evidently should be put in a closed receptacle, like a bladder, in order to get its full effects. Although the method of administration was not well adapted for the particular substance used, the experiment indicates that the chloride acts as an arterial stimulant, but is feebly if at all anæsthetic. If the chloride had very marked anæsthetic power a mixture of it with ether might be of service, the very volatile chloride producing anæsthesia at once, and the ether maintaining the insensibility.

My next experiments were upon the *bromide of ethyl.* All of the specimens used were manufactured by Wyeth & Brother, of this city.

The important physiological difference between chloroform and ether is in their action upon the heart, and my experiments have been chiefly directed to determining whether the bromide, like chloroform, is depressant to the arterial pressure, and therefore probably dangerous as an anæsthetic, or whether it shares the stimulant powers and the safety of ether. As an anæsthetic I have found it fully as prompt as chloroform, but more evanescent in its influence.

Exp. II.

Time. M. Sec.	Art. Press. Mm.	Remarks.
0.	50–90	Pressure has been steady for some minutes.
1.		One and a half fluidrachms.
2.	100–120	Dog struggling violently.
2.30	50–180	Dog very quiet, with exceedingly deep and forcible inspirations.
2.40	90–110	Dog quiet.
4.		One and a half fluidrachms.
9.	60–100	Dog profoundly anæsthetized.
10.		One and a half fluidrachms.
11.	40–50	Respirations very much lessened in depth, also slow.

The dog was allowed to recover consciousness, and then one and a half fluidrachms were injected into the jugular vein. The heart stopped at once.

Exp. III.—A Moderate-Sized Dog.

Time. M. Sec.	Art. Press. Mm.	Remarks.
0.	75–95	Pressure steady for some minutes.
0.30		Two fluidrachms of the bromide.
0.45	80–110	
1.	60–90	Profoundly anæsthetized.
2.	50–60	
3.	30–35	Breathing very much affected. Sponge removed.
3.30	40–45	
4.30	55–60	
6.	75–80	
7.	100–110	Dog perfectly conscious.
11.	90–100	Two fluidrachms of ether.
14.	75–95	Conjunctival reflex almost abolished. Ether was given freely, at short intervals, for the next *ten minutes*, and the dog was kept profoundly anæsthetized.
25.	75–90	Two fluidrachms of ether.
26.30	70–80	Respirations very much suppressed.
27.	80–90	No respiration occurred after this.
27.50	60–70	

Exp. IV.

Time. M. Sec.	Art. Press. Mm.	Remarks.
0.	50–110	Dog breathing very deeply; pressure has been as marked for some minutes.
0.15		Two fluidrachms of bromide of ethyl.
1.	60–150	Dog struggling very much.
2.	70–100	
2.30	70–100	Profoundly anæsthetized.
3.	50–90	
3.40	60–90	Fluidrachm of the bromide.
4.30	70–90	
5.	65–90	Anæsthesia passing off.
6.	65–90	
8.	75–105	Dog conscious.
10.20		A fluidrachm of chloroform.
12.	65–95	Dog profoundly anæsthetized.
12.50	50–65	
13.	40–50	
14.30	20–30	Respirations slow and feeble.

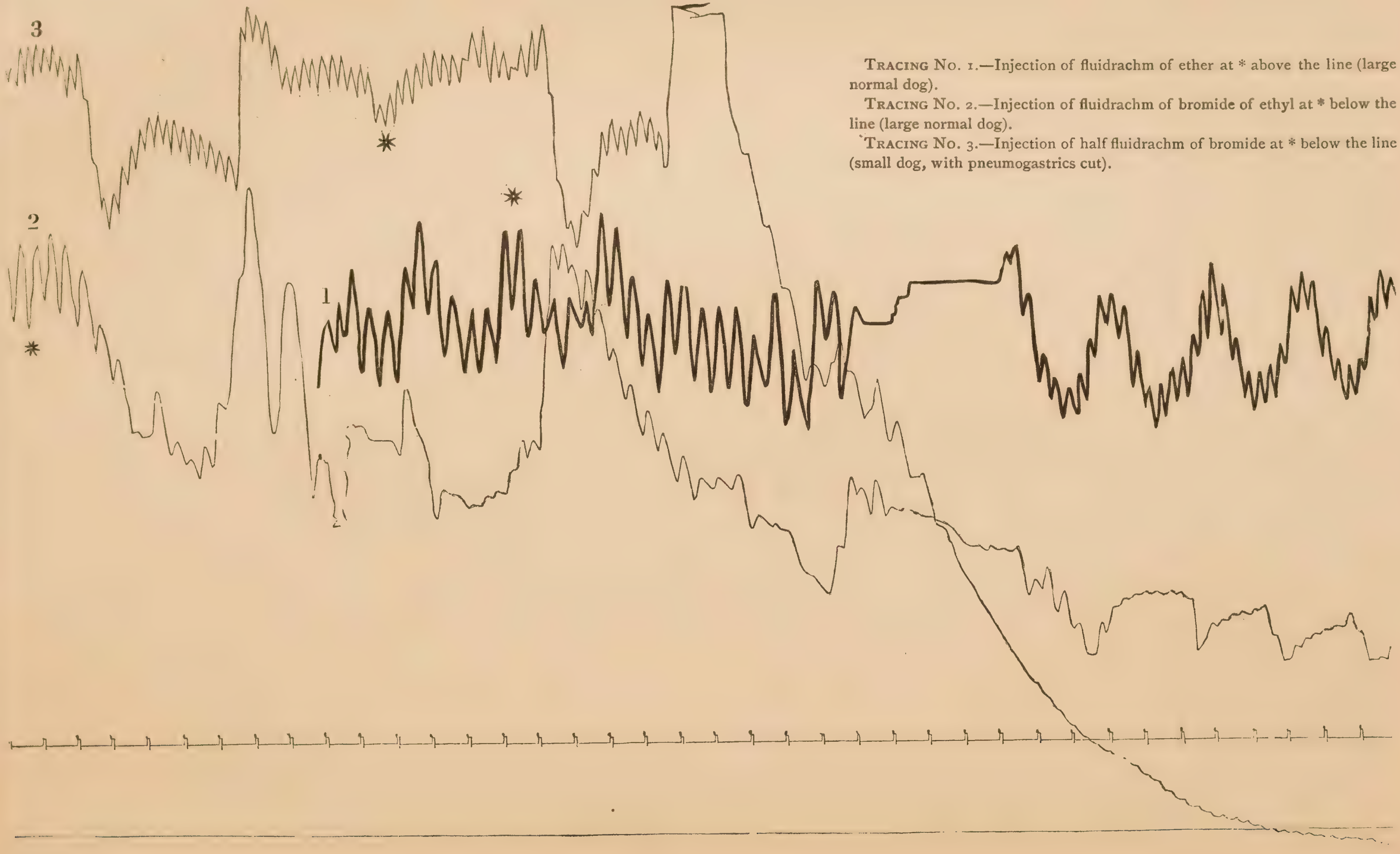
Extended analysis of these experiments is scarcely necessary. They certainly show that the bromide may cause anæsthesia without reducing the blood-pressure, but also indicate that it is distinctly depressant to the circulation, reducing, when in excess, the force of the blood-current to a very marked extent. The suddenness of the drop in the arterial pressure seen in the latter part of Exp. II. is unpleasantly suggestive of what has been witnessed so frequently in the surgical amphitheatre during the administration of chloroform. In Exp. III. a still more sudden loss of heart-power occurred, the arterial pressure going down over 40 per cent. in a single minute. In the human being such a change of the pulse-force would be most alarming. A marked contrast is seen in Exp. III. between the cardiac action of the bromide and of ether. By the bromide the arterial pressure was reduced from "75–95" to "30–35." The animal was then allowed to recover, and anæsthesia was subsequently produced by ether and pushed to the final limit; the arterial pressure was "70–80" at the time breathing practically ceased, and rose to "80–90" under the influence of the asphyxia caused by the suspension of respiration. In Exp. IV. a comparison was made between the bromide and chloroform. When the dog was fully anæsthetized with the first agent, and the effect of the early struggles had passed off, the pressure was from "50–90;" with chloroform, "65–95," or, a little later, "50–65." The bromide would seem, therefore, to rival the older anæsthetic in its depressant influence upon the circulation. That this action is exerted upon man as well as upon the lower animals is apparently shown by the sphygmographic studies which have been made at the University Hospital by Dr. Sheppard, Resident Surgeon.

The next step in this study of the bromide was to determine whether the fall of arterial pressure is due to a direct action upon the heart. It was found that when the cut-out heart of the frog is touched with a drop of the bromide, or even when it is hung in the concentrated vapor, all movements cease at once. This, of course, indicates that the drug acts directly upon the heart-muscle or its contained ganglia. In order to be sure in the matter, three experiments were performed; one of these has been already noted, the other two are expressed graphically upon the succeeding page. Tracing No. 1 was obtained for comparison by injecting a fluidrachm of *ether* into the jugular vein, so that the whole of it should be precipitated at once upon the heart. Tracing No. 2 portrays the result of a similar injection of a similar amount of the *bromide.* In both these cases the animal was in a normal state; but in the experiment represented by tracing No. 3 the pneumogastrics were divided previous to the injection of a half-drachm of the bromide of ethyl.

The tracings do not need any discussion; taken along with the trials made upon the frog's heart, they prove that the bromide of ethyl acts as a cardiac paralyzant. The influence of this anæsthetic resembles, therefore, that of chloroform, and not that of ether; and it is altogether probable that it shares the dangerous properties of chloroform. It has been given, it may be, a few hundred times without causing a cardiac death; but how many thousands of times in succession is chloroform often administered in a city without a fatal issue!

The great superiority claimed for the bromide over ether has been its being less apt to produce sickness than is that anæsthetic. It does not appear, however, that this claim is just, even as regards the comparison with ether,—at least if the anæsthesia is maintained for any length of time. In Dr. Marion Sims's case the death was probably produced by the bromide.

Dr. Agnew informs me that he has employed the bromide seven times, and that in five of the cases there was vomiting. In one instance the vomiting was very severe, and lasted from before noon until the patient went to sleep at night. The proper comparison of this agent is not with ether, but with chloroform; and there is every reason for believing that the bromide is more apt to cause vomiting than is chloroform. There is one peculiarity about the bromide which seems to me to render it even more dangerous than chloroform, namely, that in order to get a prompt effect it has to be given very boldly, and its action has to be maintained by its free continuous use. Thus, Dr. F. L. Haynes writes me that he has employed it in several cases, and sometimes failed to



Tracing No. 1.—Injection of fluidrachm of ether at * above the line (large normal dog).

Tracing No. 2.—Injection of fluidrachm of bromide of ethyl at * below the line (large normal dog).

Tracing No. 3.—Injection of half fluidrachm of bromide at * below the line (small dog, with pneumogastrics cut).

get the patient under the anæsthetic, and sometimes had the patient wake up in the midst of the operation with violent efforts at vomiting.

If any reader will examine the sudden fall of the arterial pressure in Exp. III. between the second and third minutes, and remember the great expensiveness of the bromide and the lack of any anæsthetic superiority on its part to chloroform, he will, I think, hesitate about endorsing this new agent.

ON THE REVISION OF THE UNITED STATES PHARMACOPŒIA BY THE CONVENTION WHICH MEETS IN WASHINGTON, D.C., MAY 5, 1880.

BY D. WEBSTER PRENTISS, M.D.,

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MORE than usual interest is taken in the coming revision of the Pharmacopœia, in consequence both of the fact of the great necessity of such revision, and of the unusual attention which has been called to the subject by the vigorous attempt of Dr. E. R. Squibb to take the Pharmacopœia out of the hands of the Pharmacopœial Convention and transfer it to the American Medical Association.

Although Dr. Squibb was overwhelmingly defeated in this attempt, there is no doubt that much good has been accomplished thereby in awakening both the profession of medicine and that of pharmacy to the importance of the subject.

One of the effects of this increased interest was the appointment of a committee by the American Pharmaceutical Association, in 1877, to make recommendations concerning the Decennial Revision of the Pharmacopœia in 1880.

The result of the appointment of this committee is the very excellent and painstaking report of Mr. Charles Rice, of New York, published in January of this year. How carefully and completely he has gone over the ground may be inferred from the fact that the report is embraced in a pamphlet (large octavo) of two hundred printed pages.

Valuable contributions in the same direction have been made by Dr. Squibb, Mr. A. B. Taylor, and Mr. Joseph P. Remington.

In making the forthcoming revision it is probable that many radical changes will be deemed advisable. It is better, in making these changes, to do it thoroughly and upon an established basis, in order that radical changes in the future may be unnecessary:

1. At the outset it may be fairly laid down as a guiding rule that the Committee of Revision should aim at *simplification* and as perfect a *classification* as possible.

2. The Pharmacopœia is not a book of *prescriptions*, nor is it intended to supply the place of a "Formulary." It is not supposed to save the physician the trouble of writing prescriptions when they can just as well (or better) be written extemporaneously, and when they must be so compounded by the pharmacist. It is a recognized principle with physicians that the prescription should be adapted to the requirements of each case; and nothing is more to be deprecated than *routine* prescribing. It is undoubtedly to the advantage of both physician and patient that the recipe should be *thought out* and its strength gauged to the needs of the case in hand. To include such formulæ in the Pharmacopœia (and there are at present many such) is to burden it unnecessarily and put temptation in the way of the prescriber.

Under the same heading comes that heterogeneous mixing of many drugs in one formula known as "polypharmacy." A patent example of one such is the proposed formula in Rice's Revision for "Chlorodyne." Such compounds are devoid of both rhyme and reason, and should be excluded. Hence we suggest that many preparations at present official had best be dropped and left to the *extempore* prescription of the physician. The principal of these are to be found among the decoctions, infusions, ointments, and suppositories.

The official suppositories afford us a very clear example of what is here referred to. They are preparations that cannot be kept in stock, but must be prepared just as called for. Their formulæ make them the simplest of prescriptions. A strength that will suit one case would most likely not be adapted to another, as, for instance, *suppos. morphiæ;* each one contains 0.03 grain of morphia,—a full dose for a strong man. Give this dose to a delicate, susceptible female, and most likely we will have a case of narcotic poisoning to deal with. I have been informed by a pharmacist in this city (Washington), of twenty years' experience, and doing, perhaps, the largest prescription business in the city, that he has *never* had a call for an *official* suppository. They are always written for by prescription.

Furthermore, why burden the memory unnecessarily to remember the strength of such preparations?

3. *Uniformity of strength for the preparations;*—that is, let each class of preparations represent as nearly as possible a specified percentage of the crude drug from which they are made. None would question the advantage of such uniformity were it once established, as we believe it is entirely practicable that it should be, with a few exceptions. The fluid extracts are already uniform, representing weight for weight: hence, knowing the dose of the crude drug, no effort of the memory is required to know the dose of a fluid extract. If *tinctures*, *wines*, and *vinegars* could in like manner be made to represent a uniform percentage (say ten per cent.), what a simplification we have at once as to the dosage of perhaps one-half of all the compounds of the materia medica! And it is practicable to make this very change.

This would not only insure greater accuracy and guard against mistakes, but would also be a great saving of labor in learning and of mental effort in remembering doses of the different preparations now mostly arbitrary, which every teacher and student of materia medica will appreciate.

Let us see how the most important of all the preparations of the materia medica (namely, the *tinctures*) would be affected by making their strength uniform at ten per cent.:

By an examination of Mr. Rice's report it will be seen that *twenty-three* of the tinctures now represent a strength of about ten per cent., *eleven* have a strength of fourteen per cent., and *twenty-one* of twenty per cent.

Tinctures weaker than ten per cent. are: tinct. cantharides, four per cent.; tinct. capsici, four per cent.; tinct. opii camph., one part to two hundred and fifty.

Tinctures stronger than ten per cent. are: tinct. aconit. rad., forty per cent.; tinct. verat. vir., fifty per cent.

Thus twenty-three tinctures would be unaffected by the change; eleven would be reduced from fourteen to ten per cent., which would in no way interfere with their usefulness; twenty-one would be reduced in strength one-half. This would not increase objectionably the amount of alcohol, unless in cases of cinchona and hops. In regard to the latter, Stillé and Maisch say that it is of little service except for the *alcohol* it contains.—(National Dispens.)

Two tinctures (tinct. cantharides and capsici) would be raised from four to ten per cent.

Paregoric should be left unchanged, as an exception.

We have left the two strong tinctures, —aconite root and veratrum viride. To dilute these four or five times would be an undoubted improvement, as rendering accident from overdose less liable to occur. As they now stand they approach nearer to the fluid extracts than to the tinctures.

If the proposed change were made, no mistake could occur except on the safe side.

Those who prefer more concentrated preparations still have the fluid extracts, which can be diluted to any required strength on prescription. Indeed, as it now stands the fluid extracts are taking the place, to a great extent, of the tinctures.

It is proposed that in the Pharmacopœia, under the head of *Tincturæ*, general directions be given for their preparation, followed by a list of those which are official, and enumerating, with the requisite explanation, such as require peculiar treatment. Another obvious advantage of such an arrangement is that if all tinctures are understood to be of ten per cent. strength room is made for all new tinctures without putting them in the Pharmacopœia.

The principal objection to such a change will undoubtedly come from physicians, who, having learned the doses according to the present Pharmacopœia, will think it too much trouble to learn them over again. A little reflection, however, will show that it is far easier to learn a *system* of this kind than it is to even carry in the mind, although already learned, the arbitrary strength and doses of the present list.

It might be a question as to whether it were not better to make the *doses* of preparations uniform rather than the *strength;* but such an arrangement would involve quite as many changes as the one just proposed, without the advantage of a *system* based upon the crude drug.

4. Make the *wines* and *vinegars* of same strength as tinctures,—ten per cent. This is suggested by Mr. Rice as to the liquid preparations of opium, the tincture, deodorized tincture, vinegar, and wine (paregoric being excepted), but there is no reason why the rule should not be extended to all the official *wines* and *vinegars*.

5. Make the dilute mineral acids twenty per cent. strength (HCy is to be excepted). There are but six of these dilute acids, yet how many physicians five years away from college can give their strength exactly? Let each one who reads this try it for himself.

6. A sufficient description of the drugs should be given to identify them, and a sufficient detail in chemical processes to make them unmistakable and practically useful.

7. In Mr. Rice's report he proposes that quantities shall be expressed in proportionate parts by weight. This is a move in the right direction, but does not go far enough. Proportionate parts should be in the per cent. ratio. Then the percentage of strength of each ingredient in every formula is shown at a glance.

8. The term *officinal* should be changed to *official*. The propriety of this change is so apparent that the wonder is the former term should have been retained so long. *Officinal* is from Latin *officina*, which means a "workshop," and can in no sense of consistency be applied to a Pharmacopœia, which is the *official* production of a convention. The word *official* is from *officium*, "an office," and means pertaining to an office. Those substances included in the Pharmacopœia are placed there by the "official" act of the Convention or its committee, and should be so termed (see "Attfield's Chemistry," 5th ed., p. 25, foot-note).

TRAUMATIC TETANUS—FAILURE OF BROMIDE OF POTASSIUM.

BY J. E. TEFFT, M.D.

RICHARD MILLER, colored, aged about forty, a sound and healthy man, on Wednesday, March 10, 1880, jumped from a pile of lumber, alighting on an old plank, and drove a nail through his shoe-sole, the nail penetrating the right foot between the first and second metatarsal bones, perhaps three-fourths of an inch in depth. The wound healed promptly without surgical attention. On Wednesday, March 17, at 10 A.M., he presented himself to me, saying that he could not open his jaws; he had also precordial pain "running through to his back." Of the symptoms I will only say that they consisted of trismus, diaphragmatic spasms, and opisthotonos. The spasms gradually increased in frequency until he died, at noon on Saturday the 20th.

Now as to treatment. Locally, the wound was reopened and a few drops of pus discharged, then dressed with hot poultices. He took from Wednesday, at, say, 11 A.M., until he died (three days), one drachm of bromide of potassium every three hours, missing at most two or three doses. From Thursday night he had twenty grains of chloral and one-sixth of a grain of morphine every four or six hours, so that he slept almost constantly except when aroused by the spasms. He also got strong soup, milk, and a little brandy. He apparently died from spasm of the respiratory muscles, though he was rapidly becoming exhausted.

I think the bromide had a fair trial and was exhibited in sufficient doses: the other treatment was auxiliary and not antagonistic.

SOLUTION OF SULPHO-CARBOLATE OF SODIUM AS A DILUTING FLUID FOR BLOOD-CELL COUNTING.

BY FREDERICK P. HENRY, M.D.,
Physician to the Episcopal Hospital.

BEFORE making a count of blood-cells, certain steps are necessary, the first of these being the selection of a diluting fluid. Several are recommended by writers upon the subject of blood-cell counting, chief among which are a solution of sulphate of sodium, sp. gr. 1020, Potain's solution, and the borax-urine and mercury-urine solutions of Prof. Keyes, of New York. The objection to the two former is that they do not prevent the development of bacteria and round- and oval-celled cryptogamic growths, both of which greatly interfere with the process of blood-cell counting, and to the two latter that they require considerable care and time in their preparation. In my experience, also, the borax-urine solution, which I have prepared in strict accordance with Dr. Keyes's formula, does not hinder the development of bacteria to the extent that is claimed for it by its inventor.

On January 2 I examined with the hématimètre a specimen of blood diluted with a solution of sulpho-carbolate of sodium (sp. gr. 1020), and found it answer the purpose quite as well as the borax-urine solution of Keyes. Like the latter, it preserves the color of the cells and makes them globular. It also reduces their size, but not to the same extent as does the borax-urine solution, although the difference in this respect is slight. Finally, its preparation is only a matter of a few moments. The objection hitherto made to carbolic acid and other antiseptics, as adjuvants to fluids used for blood-cell counting, is that they will not prevent the rapid development of bacteria "unless added in a strength destructive to the blood-corpuscle." This objection does not apply to the sulpho-carbolate. At the date of writing these remarks, March 23, I used, in making a blood-cell count, some of the solution prepared on January 2, and found it perfectly clear and free from fungi and bacteria. In my opinion, this fluid, for blood-cell counting purposes, leaves nothing to be desired.

TRANSLATIONS.

Generalized or Partial Spontaneous Parenchymatous Neuritis.—Under the designation "Spontaneous Neuritis" Joffroy (*Cbl. f. Med.*, 1880, p. 50; from *Arch. de Physiol.*) includes those cases not dependent upon trauma, a central nervous affection, or extension of disease from other tissues. A frequent form of partial neuritis is the rheumatic variety, *e.g.*, that affection of the ischiatic where muscular pain and atrophy, with degenerative reaction in the atrophic muscular structures, occur. A second ("toxic") form of neuritis is that dependent upon lead paralysis, which Joffroy does not think dependent upon central trouble. A third variety is that found in the course of acute infectious diseases where one nerve or another may be affected. (He gives a case of neuritis of the nerves of the arm with pain and consecutive muscular degeneration and atrophy occurring in the course of variola.) In most cases of spontaneous partial neuritis there are observed, besides wasting, an altered electrical condition of the muscles connected with the inflamed nerve, with paræsthesia of sensibility, anæsthesia or hyperæsthesia, and, in particular, severe pain in the entire course of the affected limb. This, if present at all in lead paralysis, is only slightly so.

These partial neuritides are the opposite of the "general parenchymatous neuritis," of which Joffroy quotes a number of cases and adds one of his own. In these cases pain is never present, as in the partial form of neuritis. In three cases the patients suffered from tuberculosis. The affection under consideration is distinguished from the poliomyelitis of adults by the light character of the earlier symptoms, and the invariable unfavorable tendency of the case after the earlier weeks.

A Case of Congenital Unilateral Total Color-Blindness.—O. Becker (*Cbl. f. Med.*, 1880, p. 60; from *Arch. f. Ophthalm.*) observed, in the case of a girl of 17, total color-blindness of one eye, while the other preserved the normal ability to distinguish colors. It is surprising that in this girl's family several cases of total color-blindness on both sides were found among the males. It is possible that researches upon unilateral color-blindness may explain the curious facts known with reference to the overleaping of congenital color-blindness from a grandfather to the son of a daughter not herself color-blind.

Phlegmonous Gastritis.—Three cases have recently been reported by Geax and Lewandowsky (*Cbl. f. Med.*, 1880, p. 61; from *Berl. Klin. Wochenschr.*) The symptoms were high fever, initial vomiting of mucous-bilious masses, circumscribed intense tenderness over the epigastric region, with rapid collapse. Abuse of alcohol, with defective diet, appeared to be the cause in one case, but not in the other. The ages of the patients were 52, 50, and 46 years, respectively; the duration of the disease, three, two, and four days. In one case there were morning remissions, rendering the affection liable to be mistaken for typhoid fever.

Treatment of Syphilitic Ulcerations by Pyrogallic Acid.—Vidal (Soc. de Thérapeutique, *Bull. Gén. de Thérap.*, 1880, p. 184) has begun a series of researches upon pyrogallic acid, or pyrogallol. Pyrogallic acid, $C_6H_6O_3$, obtained by the dry distillation of gallic acid heated to 200°–215° C., occurs in the form of needles or fine white scales. It melts at 115° C., and boils at 210° C. At 250° C. it decomposes into metagallic acid and water. It is soluble in two and one-half parts of water, and is also very soluble in alcohol, ether, and glycerin. The aqueous solution becomes black when exposed to the air. It is neutral. M. Vidal made his first experiments with pyrogallic acid in 1878, employing it in the treatment of psoriasis. In Vienna it is used as a succedaneum to chrysophanic acid. It must be employed with caution, on account of its action upon the kidneys.

The syphilitic ulcerations in which M. Vidal employed pyrogallic acid were of a phagedenic character, and had resisted all previous efforts to stay their course. The acid was employed in the form of ointment, one part to five of lard, and was applied on three successive days; the pain caused was moderate, and only lasted eight or ten minutes. Under the action of these three cauterizations the surface of the phagedenic ulcers was decidedly modified. Three more applications were made, resulting in a rapid cure.

Since this first successful case M. Vidal has employed this ointment for the purpose of dressing chancres, with very favorable results. The pure acid does not seem to have the same effect. He thinks it possesses an elective affinity for neoplastic tissues. Dr. Dujardin-Beaumetz, however, does not agree with him on this last point.

RELATIONS OF SYPHILIS OF THE LUNG AND PHTHISIS.—From a recent work on this subject by Schnitzler, of Vienna, noticed in *Le Mouvement Médical*, we abstract the following:

1. Pulmonary syphilis is common; sometimes it is the result of general infection in its later stage, sometimes it presents itself promptly in the secondary period. Ordinarily it follows syphilis of other organs, the skin, mucous membranes, bones, liver, testicles, and brain. 2. The symptoms are usually those of pulmonary phthisis, causing the diagnosis during life to be difficult, and rendering even the post-mortem inspection sometimes more or less equivocal, because of the difficulty of distinguishing in the general pulmonary infiltration what is strictly tuberculous and what is gummous. 3. The diagnosis is based upon the functional troubles observed in the course of the disease, upon the influence of treatment, and upon the presence of infection in other organs. 4. The prognosis is always serious, but not constantly unfavorable when the disease is recognized, even at an advanced period. 5. Without specific treatment the disease eventuates in phthisis and death. 6. The treatment should be antisyphilitic, that is, both iodine and mercury, and Professor Schnitzler assures us that the results obtained from specific treatment will often be beyond our expectation.

INFLUENCE OF BRANDY AND WINE ON DIGESTION.—M. Leven (Soc. de Biologie, *Bull. Gén. de Thérap.*, 1880, p. 185) says that if a dog, to whom has been given two hundred grammes of food with seventy-five grammes of brandy, be killed five hours later, the food is found undigested in the stomach, the internal surface of which is red and congested. In addition, one hundred and sixty grammes of a clear, transparent, feebly acid liquid are found, containing 1.90 grammes of hydrochloric acid to the litre. This liquid contains no pepsin, and is without digestive power. It is probably the result of aqueous endosmosis, produced under the influence of excitation of the gastric mucous membrane. There is no trace of alcohol in this fluid. Brandy, therefore, in excess irritates the stomach without favoring digestion. Further experiments showed that brandy given in small quantities, and especially if well diluted, is favorable to digestion.

ETIOLOGY OF ERYTHEMA NODOSUM.—Neumann (*Cbl. f. Med.*, 1880, p. 63, from *Wien. Med. Wochens.*), in opposition to many authors, regards erythema nodosum as an idiopathic affection, having nothing in common with erythema multiforme but the name. It occurs in weakly individuals, either without premonitory symptoms or with slight fever and rheumatism, and disappears spontaneously within three to four weeks without relapse. The erythematous tubercles may, however, occur in connection with pleurisy, rheumatism, or pyæmia.

SALICYLATED CAMPHOR.—Dr. Henrot (*Union Méd. du Sud-Est*) employs the following:

℞ Acidi salicylici,
Pulv. camphoræ, āā 10 grammes.
Mix, and add alcohol of 90°, 10 drops.

Triturate, and then mingle with ten to twenty grammes of vaseline to which sufficient paraffine has been added to give the consistency of an ointment. This preparation is slightly caustic, and has been used with success in phagedenic ulcers.

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THE Ophthalmological Section of the International Medical Congress is to meet in Milan during the first four days of next September.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, APRIL 24, 1880.

LEADING ARTICLES.

AN ABSTRACT OF PROFESSOR SCHIFF'S LECTURE ON CONDUCTION IN THE SPINAL CORD.

Delivered at the Meeting of the German Naturalists and Physicians held at Baden-Baden in September, 1879.

Prepared from the Original Papers and Preparations of the Author

BY B. F. LAUTENBACH, M.D., PH.D.

SINCE my first publication on the subject, said Professor Schiff, I have continued my investigations on the spinal cord, and have especially much improved the methods of determining the extent of the lesions produced by physiologists. I have endeavored also to keep the animals alive as long as possible, so that the primary effects of the operation might be distinguished from the durable paralytic and anæsthetic effects, and to study these latter in all their phases. The method of operation now adopted by me is very similar to that described in my "Lehrbuch der Muskel- und Nerven-Physiologie." For the operations on the white substance my former method has been retained in all its particulars. The gray substance is destroyed by mechanical irritation or through injections of ink, etc., thereby producing an inflammation. The degeneration and resorption of the destroyed portions is then waited for. It is simply impossible to destroy in any other manner the functions of the gray matter without at the same time affecting the white substance.

In the autopsies transverse sections of the spinal cord are made; but, as these are examined with transmitted and not with reflected light, these sections have to be relatively thin. The examination of transverse sections taken on the level with the wound is, in most cases, of but doubtful utility, and must be made with the greatest care, as the hardened cord becomes brittle at the edges. It is true that this is no longer to be feared when, as in all the conclusive experiments, the animals have lived for a long time after the injury, and consequently the true inflammatory process is over. At the best such investigations only show how much of the cord has been cut. But as the loss of function following a section into the nerve-substance always (and a fraction of a millimetre is here often of the greatest importance) extends farther than the section itself, and as the portions of the cord limiting the extent of the wound are also made functionless, we must seek a more accurate method of determining the extent of the lesions produced. For the white substance* this is absolutely possible, provided the animals live long enough after the operation. There is then found in the vicinity—sometimes only one-quarter to one-half millimetre above and below the wound—the so-called *primary degeneration*. The nerve-fibres disappear in a sclerotic tissue, and just as far as these fibres have vanished we must conclude that just thus far the cord has been rendered functionless by the operation.

The spinal cord is best hardened in alcohol to avoid the use of coloring agents. With the free hand it is then cut into not too thin sections, and these are then examined with the polarization microscope; when necessary, the plate of gypsum is used. A very weak power that will allow the whole of the transverse section of the cord (dog) to be seen at one time suffices to show in every preparation (prepared, as usual, with the oil of cloves, and afterwards enclosed in balsam) every single transverse section of an undegenerated nerve-fibre much better than it can be seen with the ordinary light and the higher powers. The nerve-fibres are seen in the dark field of vision as bright points with black crosses.

The investigations made with polarized light give us, in this manner, a certainty and facility, combined with the power of rapidly examining the preparations, which can be attained with no other method. When within the limits of the white columns—which are first focused with the gypsum prisms not crossed—on the crossing of the prisms no bright points are seen, it is certain that all the longitudinal fibres have really degenerated. The absence of fibres could not have been produced after death in the preparation of the sections, as they must have been destroyed during life in order to have degenerated and lost their double refracting power. If during life but *one* fibre or group of fibres at the edge or in the angles of the gray substance had escaped section, it would have been detected immediately, by this method of investigation, by the uninjured fibres appearing very bright. The limits of the gray substance can be seen most sharply defined by turning the prism, and in this manner it is often possible to see the border of the gray fibres, when with ordinary light it would not have been seen. A higher power, with more intense light, must be taken in order to determine with certainty that what seems to be gray substance is really such, and not another degenerated tissue, which fails to doubly refract.

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* This great accuracy is at present not of so much importance for the gray substance.

The preparations [which were open for examination every afternoon during the continuation of the meeting] are taken from dogs who lived a number of weeks (to four months) after the operation.

After the explanation of the methods which I have just given, you will easily recognize that in some of these preparations all of the white columns have degenerated, *i.e.*, they contain *no trace* of double-refracting elements, while already immediately above and below the gray substance, with its ganglionic elements, has remained unaffected. The degeneration shows the extent of injury at the point of section. As a comparison, I have placed by the side of these preparations others where some portion of the white columns (ofttimes against my will) has escaped injury. You will see the uninjured fibres as bright groups in the dark field.

I further show you a preparation (dog) taken at a great distance from the wound, which involved the whole of the white substance. Then, again, you see groups of normal fibres, which with the aid of the gypsum-plate (red, first order) become very apparent through their color and brightness. In one of the preparations you find in the anterior columns but four double-refracting primitive fibres. In some of these preparations, which I have colored with carmine, can be observed in the—according to the testimony of the polarization microscope—totally-degenerated anterior column, very near the anterior nerve-roots, three or four of the red points, which have tentatively been called naked axis-cylinders. In a communication which I design making, the reasons will be given why I think that these points should not be regarded as axis-cylinders. But, even were I mistaken in this regard, it could not influence this demonstration, as the loss of the medullary sheath already shows that the degeneration has commenced here, and the degeneration is only expected to show the extent of the artificial lesion.

These preparations demonstrate, *ad oculos*, how much those gentlemen are mistaken who declare that it is absolutely impossible to cut the whole of the white substance or individual columns of the same in their entirety without at the same time producing an extensive lesion of the gray matter. To do this, it is true, much patience is necessary, and I have had to make many unsuccessful experiments in order to obtain a sufficient number of decidedly convincing facts and observations. In making these experiments the operator must endeavor to follow, as nearly as possible, the well-known anatomical shape of the columns. The sections which are made in straight lines and right angles are mistaken methods, and it is impossible, by their aid, to arrive at accurate facts respecting the physiology of the spinal cord. Such methods could only lead to erroneous views, and this was so much the more possible as the observations were continued only for a few hours, during which time the influence of trauma and of the effusion of blood into the interior of the cord could not be distinguished from the durable effects of the lesion. My dogs in whom the white columns were entirely cut across, and others where the lateral white columns only were cut (at the last dorsal and first lumbar vertebræ), were, in the first hours, as if paralyzed, and sensibility was either absent or much diminished in the parts posterior to the injury. Little by little, however, the animals recovered the sensibility to pain and pressure, and, where the posterior columns were concerned, also that for touch, and voluntary movements of the hind legs and tail returned. The movements were often somewhat unsteady, but were present in every joint. The sensibility to pain was complete.

Even when the gray substance was considerably injured with the white, the movements and sensibility (the last with the modifications well known from my older experiments) return, and I can, from these experiments,—of which I show you no examples,—only repeat that the sensibility of all portions of the posterior part of an animal and voluntary movements are conducted if a relatively very narrow bridge of normal gray matter remains. The same portions of gray substance which correspond to this bridge may be cut across a centimetre above or below the chief injury, and yet the conduction not be interfered with. The bridge of gray matter may be in the middle or in either of the lateral halves. If this bridge be very small, however, and should it comprise only the external part of one lateral half of the gray substance (which in dogs, cats, and rabbits is enclosed between the folds of the white lateral columns), the sensibility of but one side of the parts posterior to the section will remain. In cats the insensibility usually remains on the side corresponding to that where the bridge of gray matter exists, while in dogs it is usually the opposite side which is sensible.

I have just alluded to the lateral ramifications of the gray matter. It seems that their existence is not yet generally known, and that many are still of the false opinion which was at one time defended by Ludwig and Biel,—that they are only connective-tissue septa, which proceed from the membranes of the cord to the gray matter. It is true that connective tissue and blood-vessels are to be found in these ramifications. Stilling long since, and especially in his great work on the spinal cord, showed that these ramifications are chiefly composed of nervous continuations of the gray nervous matter of the cord (ofttimes with ganglionic bodies), and that these extend far into the lateral columns, and then turn upwards or downwards, in part returning to the central gray matter. Most of the investigators who have examined these ramifications under high powers of the microscope have recognized their essentially nervous nature, and I have found new arguments to sustain the teachings of Stilling, even without the aid of a very strong objective.

Should we, as do certain experimenters of the Leipsic school, fail to recognize these ramifications, we could believe that we had cut across or destroyed all of the gray substance which could connect the anterior with the posterior portion of the body, when in reality only the central gray substance had been cut. As in such cases sensibility (often very marked) still continues in the parts posterior to the section, we would arrive at the false conclusion that sensibility is only conducted by the white columns; and should we not be able to differentiate between sensibility to touch and sensibility to pain? And should we, further, know naught of the retardation of sensory conduction, it would be possible for us to say that *all* sensory impressions are conducted by the lateral columns, and the apposition of physiological experiment with pathological observations would be complete.

It has now, however, become possible to prove what I formerly could only give as very possible,—that the *white longitudinal fibres of the antero-lateral columns conduct no sensory impressions to the cerebrum.* On the contrary, they serve for the voluntary movements.

In a series of experiments I was able, in the region of the first lumbar vertebra, to destroy the whole of the gray matter, including even the outermost ramifications in the lateral columns. The most, and perhaps all, of the longitudinal fibres of the white lateral and anterior columns retained their structure and double-refracting power, but the shape of the lateral columns was so changed that, as you see in the preparations, its innermost bundles of fibres, having lost their hold, extend into the seemingly greatly-enlarged central canal, around which not the slightest trace of gray matter is to be seen. In these cases partial voluntary movements of the hind extremities—at least, from the knee downwards—still existed, but *all sensibility*, even for the strongest induction-currents with the electrodes inserted into the skin, *was permanently gone* provided the white posterior columns were cut across.

I show you other preparations, which show that the degeneration following the inflammation of the gray substance extends underneath the wound sooner in the lateral ramifications than in the central gray matter.

You will excuse me from giving a summary of my results, as my chief object is to show you, by means of preparations, that the experiments were really made as I described them. It is to me a pleasure to be able to say before you that the continuation of the experiments has more and more added to the conviction that I have not a word to withdraw from the exposition which I gave twenty years ago of the physiology of the spinal cord, though there is much to add from the stand-point which I take at present.

REVIEWS AND BOOK NOTICES.

Clinical Lectures on the Diseases of Women. By J. Matthews Duncan, M.D., etc. Philadelphia, Henry C. Lea, 1880.

"There are so many cases for which there are no names!" is often the despairing cry of the practitioner, as he tries to fit the ever-varying phases of disease to a rigid nomenclature. The book before us gives no mean assistance to such a task. It does more; it suggests happy names for certain groups of morbid conditions, and describes the groups with definiteness, making them picturesque and their images lasting.

The faculty of pleasant writing seems one more often bestowed upon the British than upon the American medical writer. Just what it is we lack, just what it is that renders so many of their books charming, is hard to define. They have a thorough mastery of the use of the king's English, which is not necessarily the same as the president's English; a care about style as well as matter; a wider glance, that takes in the relation of things to other things beyond the writer's own limited field. One can never discover a new planet by ever so assiduous use of the microscope.

Take such subjects from the table of contents before us in Dr. Duncan's little book as "Missed Abortion," "Painful Sitting," "Aching Kidney," "Hepatic Disease in Gynæcology and Obstetrics," and our meaning will be clear. The writer draws pictures and experience acknowledges their truth, yet we search in vain the lists of a cast-iron nomenclature for what we want.

Lecture II., on "Abnormal Pelvis," gives the student plain directions for pelvic measurement. In the graver cases of deformity the author says, "It has been common for students or practitioners to divide themselves into two classes, and one set to swear to a belief in version, while another set believe in forceps as the proper mode." But he claims for such cases a higher decision than partisanship,—that of a careful judgment in each individual case,—and that all recent improvement is improvement not in diagnosis but in a judgment based not alone on a minute measurement of the congregate, but of all the varying elements of the case.

In judging of statistics he says, wisely, "The forceps cases of a forceps enthusiast are unfairly set against those of one who barely uses the instrument." The chapter on "Chronic Catarrh of the Cervix Uteri" is iconoclastic, yet conservative, but not of the old time-honored traditions of caustic and ulceration, when "over the whole world gynæcological practitioners were busy with the speculum and caustic, and thought they had in these tools a panacea for the diseases of women." Happy days for the gynæcologist who did his duty according to his light! Now, alas! his lights are so many, so varied and intense, that their glare confuses him. The author's treatment of cervical catarrh consists in a weak lead lotion and the zinc alum stick. Perimetritis and parametritis—names which flourished with vigor but whose death-knell has sounded—and ovaritis form the topics of very instructive chapters.

The name "Painful Sitting," Chapter VIII., is "just as good for a disease as dysmenorrhœa, and quite as distinctive." The whole list of chapters contains none that is not filled with the apt illustration and personality of the author. The digressions are frequent, and add to the interest. In Chapter XVI., on uterine hæmatocele, he takes the opportunity to give his views on diagnosis: "I have seen practitioners prescribe and then set their brains to work to ascertain what is the matter." He calls diagnosis by exclusion "a limping method," and "a very shabby method," but uses it. In anatomy and pathology we "have now," he thinks, "to get a microscope with a lens of the highest power to find anything new;" still there may be "some great nuggets buried in the field of medicine even now." Certainly in the discovery of small nuggets, and the polishing of them till they shine with the true golden lustre, few can equal the author. E. W. W.

A Manual of Pathological Histology. By V. Cornil and L. Ranvier. Translated, with Notes and Additions, by E. O. Shakespeare, A.M., M.D., and J. Henry C. Simes, M.D. With Three Hundred and Sixty Illustrations on Wood. Philadelphia, Henry C. Lea, 1880.

This important work, in its American dress, is a welcome offering to all students of the subjects which it treats. The great mass of material is arranged naturally and comprehensively. After an elucidation of the normal animal cell, its lesions are clearly given. Under separate chapters the normal histology of the tissues is briefly explained, and then the pathology of the same tissues follows; and thus by comparative contrast the otherwise difficult interpretation of diseased tissues becomes easier. Healthy anatomy first, then pathology; and thus only can the subject be rightly studied.

The classification of tumors is clear and full so far as the subject admits of definition, and this one chapter is worth the price of the book. The chapter on the skin, its diseases and parasites, is intelligent, readable, and reasonable. A valuable bibliography of the subjects treated is added to the volume, and enhances its value; also a too short appendix on the technology of the subject. In coming editions it is to be hoped that an entire chapter will be given to best modern methods of preparation and demonstration, because correct interpretation in such studies depends entirely upon correct methods of work. So far as the able translators have gone in this direction it is well; but the great value of this work to our students warrants amplification in this direction.

The illustrations are copious and well chosen. But we must say with *general reference* to such illustrated works, in which delicate structures seen under best microscopes are printed, that the pencil has not kept pace with the increased revelations of our lenses. Diagrams must give place to accurate copies of what we see in all advancing works. A blacker ink would have given greater distinctness to the page and cuts. Without the slightest hesitation, the translators deserve honest thanks for placing this indispensable work in the hands of American students.

J. G. Hunt, M.D.

Eyesight: Good and Bad. By R. Brudenell Carter, F.R.C.S. London, Macmillan & Co., 1880.

In this little treatise on the exercise and preservation of vision, the author has introduced for popular reading much that is as interesting as it is necessary to know in the order and standard of popular education at the present day. The book is written with the purpose of making known precepts and injunctions relating to the subject plainly intelligible to the popular mind; and from its style and language it will fully do so to any intelligent person.

The first chapter is occupied in explaining the anatomy and structure of the eye and its appendages. Then come chapters on light; on form and properties of lenses and their images; on refraction and accommodation; on near and distant vision. Others follow on color-perception and color-blindness; on the care of the eyes in childhood and adult age, with hints as to the influence upon sight of the general health and habits of living; also remarks upon natural and artificial illumination when using the eyes, and contrivances for saving visual effort.

A great deal of interesting and instructive material is introduced in the two hundred and sixty pages of this little book, many of which are of a practical import that should give it value to the general reading public, as well as to the profession.

K.

Notes on the Diseases of the Testis. By Samuel Osborne, F.R.C.S. London, J. & A. Churchill, 1880. Pp. 117, 12mo.

This little book contains a brief account of the diseases and congenital defects of the testis. Each subject is succinctly sketched, and the whole forms an outline of an important surgical subject. Little originality either of description or of treatment is noticeable, while some omissions in the latter are to be regretted. The author states in his preface that differences of opinion from standard authorities will doubtless be discovered. Such discoveries on the part of the reader are in certain chapters conspicuous enough. Mr. Osborne assumes a great responsibility in ignoring the cautions frequently uttered as to the dangers of pyæmia following ligations of the veins in the operation for varicocele. He has a perfect right to differ from standard authorities, but he should at least respect their teachings.

Student's Primer of the Urine. By Dr. J. Travis Whittaker. Philadelphia, Presley Blakiston, 1880.

This is a good little book, chiefly valuable for the sixteen plates which it contains representing the various deposits and foreign bodies found in urine. These plates are etchings upon copper, done by Dr. Whittaker himself, and are possessed of great verisimilitude, as well as in other respects admirable. The book is very appropriately dedicated to Mr. Seymour Haden, who, whilst a surgeon in large practice, is one of the best of living etchers.

GLEANINGS FROM EXCHANGES.

Harelip.—In a very elaborate paper on this subject, Dr. W. I. Wheeler, of Dublin, enters into the minutiæ of this deformity, and relates a few striking cases, selected from a large number that have come under his observation. All of these cases were successfully operated on, the distorted parts being restored to their normal positions. With respect to the proper time for operation, Dr. Wheeler claims that no absolute rule can be laid down. When feeding is seriously interfered with, it may be necessary to correct the deformity very soon after birth; while again the patient may not be possessed of sufficient vital force to withstand so severe a shock until months, or even years, have passed. When, however, the surgeon is able to make a choice, Mr. Wheeler would choose from *three to six weeks after birth, and certainly within three months.* There are several results to be looked for from the operation, the most important being the closure of the fissure. It would seem equally essential, however, that the prælabial curve should be restored, the unsightly notch prevented, the fossa labialis formed, and the nose, whether distorted on one or both sides, restored to its proper position; and all these can, in the majority of cases, be attained by a proper exercise of surgical artistic skill.

The treatment of the protrusion of the intermaxillary bone is fully discussed in the paper, and the conclusion arrived at that it should not be removed. In almost every case it can be bent back into position, and held there by interosseous sutures, the gums being joined over it by the interrupted suture. Dr. Wheeler believes that the harelip pin affords the best means for avoiding the notch, elevating the nose when depressed, and holding the parts evenly together. He believes, further, that no instrument or special bandage devised for supporting the cheeks will ever supersede plaster or give the same even support. In addition to the narrow strips ordinarily employed, great advantage will be derived from a large strap passing under the chin to the malar bones, the soft parts being pushed forward towards the mouth before its final adjustment. To prevent hemorrhage from the coronary arteries he uses strong spring-compressors, which facilitate the operation by affording more room for the operation, steadying the muscles, and rendering the cut edges much drier when about to be joined. He uses the scissors for refreshing the edges in preference to the knife, and claims that much advantage is derived from the addition of a sheath on the under blade. By means of this modification the operator can accurately gauge the amount of tissue cut, and thus sever it in one stroke, the solidity of the under blade giving support to the lip. The addition of this sheath gives all the advantages claimed for the bistoury, and removes the objection to the scissors. (*Dublin Journal of Medical Science*, January, 1880.)—*N. Y. Med. Record.*

TETANUS AND ITS TREATMENT BY INHALATIONS OF CANNABIS INDICA.—Dr. John Lucas (*Med. Times and Gaz.*, February 21, 1880) says that no substantial basis for rational treatment, to be successful as a general rule, can be expected to be arrived at until we come to know more of its etiology and morbid anatomy. Of drugs which have recently been used, Indian hemp and calabar bean (both by mouth and hypodermically), jaborandi, and in fact almost every antispasmodic, narcotic, and sedative in the Pharmacopœia, may be said to have had its day. Hydrate of chloral has established a reputation during the past ten years which it still maintains, as has nitrite of amyl in a less degree. Surgical methods of treatment have also been from time to time put forth and practised, from the division of the suspected nerve to the amputation of a limb or portion of a limb where a wound existed. Nerve-stretching, although it has not yet had a thorough trial, is worthy of consideration.

The treatment by inhalations of Indian hemp originated with Mr. Khastagir, of India, who cured five cases by this method. Dr. Lucas says that as asphyxia is, in a large proportion of cases, the *causa mortis*, by the rigid contraction of the respiratory muscles, it seems likely that measures to avert this would, if successful, be valuable remedial auxiliaries. He has the patient kept perfectly quiet and secluded. Then a hookah charged with leaves of cannabis Indica, alone or mingled with double or quadruple its bulk of tobacco, is kept at hand, and the patient directed to begin smoking this so soon as the spasms begin, and to continue until they subside (which they really do soon) and he looks drowsy and inclined to sleep. The attendant then leaves the patient in quiet and alone, and prepares the pipe for instant use again. When the patient wakes with a spasm the pipe is at once put to his mouth, and he takes a few whiffs until it passes off, also taking a little nourishment, and then smoking again until narcotism is produced. In this way he is kept continuously day and night under its influence. An ordinary pipe with a large tube and large bowl will answer equally well, or the hemp may be given in the form of cigarettes mixed with a little tobacco. Each dose of the smoke may be regulated from eight to thirty grains, commencing with the smaller dose, and gradually increasing it as tolerance is established. The advantages of this treatment are that the spasms are cut short, they reappear gradually at longer intervals, become less severe, and finally the patient's vital powers are saved from exhaustion and life is saved.

THE DANGER ATTENDING THE USE OF SALICYLIC ACID IN ACUTE RHEUMATISM.—Dr. Maclagan (*Lancet*, vol. i., 1880, p. 327) says that in acute rheumatism, the heart being inflamed, attention is usually concentrated on the membranes, but the substance also suffers. When severe, myocarditis is apt to be fatal, and is frequently recognized in the post-mortem room. In a mild form Dr. Maclagan believes it to be more common than is usually supposed. It may exist independently of inflammation of the membranes. In all forms it produces softening and weakness of the muscular substance.

Salicylic acid, no matter whether given alone or in combination with soda, exercises a depressing action on the heart. This action is by no means general, and is probably due to some idiosyncrasy of the affected individuals.

If this depressing action be produced in one in whom the heart is physically sound, no great harm will be done. With the omission of the drug the depression will soon pass off.

But if it be produced in one who is already the subject of rheumatic myocarditis (an ailment which is not easily recognized during life), and in whom, therefore, there exist softening and enfeeblement of the ventricular walls (for the left ventricle is the chief seat of such inflammation), the depression is likely to be alarming, and may be fatal.

To form an adequate estimate of the nature and extent of the dangers attendant on the administration of salicylic acid in acute rheumatism, we must recognize, first, the tendency of the rheumatic poison to produce inflammatory softening and weakness of the muscles of the heart, and, secondly, the tendency of salicylic acid to depress that organ. In the combination of these two lies the danger of the drug, and in the absence of the tendency to produce such depression lies the superiority of salicin over salicylic acid.

VARICELLA GANGRÆNOSA.—At a meeting of the London Pathological Society (*Medical Times and Gazette*, 1880, p. 221) Dr. Abercrombie exhibited the dead body of a child, which presented on the scalp, face, neck, and upper part of the trunk many circular, depressed, sharply-cut, ulcerated spots about the size of a sixpence or shilling. The child had been admitted into the hospital two days before death, with a rash like varicella, when these ulcers were already beginning to form. The child died of pneumonia. At the post-mortem there was found a small tubercular ulcer in the small intestine, and some of the mesenteric glands were caseous. Mr. Hutchinson remarked that the specimen justified the epithet —"varicella gangrænosa"—he had suggested for such cases. He had also seen a similar case of what he would call "vaccinia gangrænosa." Dr. Barlow had seen several examples of such ulceration. In Guy's Hospital Museum there was an excellent model of the condition, labelled "rupia escharotica." (This model is also in the Museum of the University of Pennsylvania, labelled thus.—ED. *P. M. T.*) In all the cases he had been able to examine post-mortem he had found more or less tubercle, and it was to this he had at first attributed the gangrenous ulceration. But a recent instance had proved to him that they were cases of varicella. A bulla first appears, on which a thick crust forms, and under it deep ulceration goes on rapidly, so that in a few days bone may be exposed. The condition is usually fatal.

FIBROUS AND OSSEOUS CHANGES IN A FATTY ABDOMINAL TUMOR.—Dr. Dreschfield, at a recent meeting of the London Pathological Society (*Med. Times and Gaz.*, 1880, p. 220), exhibited three tumors removed from the abdomen of a woman of 49. A hard, painless swelling in the left lumbar region, of several years' duration, gradually became tender, and a similar tumor appeared in the right side. There was loss of appetite and flesh. Operation, with removal of an osseous tumor from left lumbar region and a larger and less firm fibro-fatty mass from the right side. The patient died from peritonitis and shock on the fifth day. At the autopsy an enormous fatty tumor weighing twelve pounds, attached to the back of the abdomen, was removed. The smallest tumor removed by operation was found to be of bony structure and of ivory hardness throughout; and near its point of attachment to the fatty mass several small nodules of bone were found. The second tumor was of larger size, and was partly fatty, partly fibrous in structure. The third mass was purely fatty. The interest of the specimens is twofold: first, because of their extreme rarity, only two instances being recorded in the society's *Transactions;* and secondly, because, while calcification of fatty growths is not uncommon, true ossification is extremely rare, and fibrous degeneration at the same time in an adjoining growth still rarer.

A CONTRIBUTION TO THE THERAPEUTICS OF STARCH-DIGESTION.—Dr. Roberts, of Manchester, England, gives the results of his investigations on the subject of the digestion of starch. He says that in infants under three or four months of age saliva has a feeble diastatic power; further, he has ascertained that the pancreas of sucking calves does not possess any diastatic power, and that it is fair to presume that the pancreas of the infant at the breast is in the same condition. For this reason farinaceous food cannot be digested by young infants, unless some artificial means be employed. Malt extracts being infusions of malt concentrated to the consistency of syrup or molasses by evaporation (containing about seventy per cent. of maltose, which is of no more value as food than an equal amount of syrup), the diastase exists only in small quantity. As to malt infusion, it possesses powerful diastatic properties. It is made as follows: three ounces of crushed malt are very thoroughly mixed in a vessel containing a half-pint of cold water; the mixture is allowed to remain from twelve to fifteen hours, and then passed through filtering-paper until it comes through perfectly bright. It is rich in diastase, and contains maltose in considerable quantity. As it is liable to fermentation, it should be freshly prepared each day; or it may be preserved by adding a few drops of chloroform to the infusion, and keeping it well corked. He thinks that the malt preparation will prove of more service if taken with the food than after the meal, as by so doing it will become thoroughly mixed with the food. An excellent way of administering malt infusion is by adding one tablespoonful to half a pint of gruel. In conclusion, he speaks of the liquor pancreaticus, made by infusing one part of fresh pancreas with seven parts of water; this was found to possess twenty times the diastatic power of the malt infusion alluded to. (*The Practitioner*, December, 1879.)—*New York Medical Record.*

INTUSSUSCEPTION—INFLATION WITH AIR—RECOVERY.—Dr. Ransford (*Lancet*, vol. i., 1880, p. 326) was called to see a child 11 months old, who had been suddenly taken ill with vomiting, pain in the bowels, and the passage of blood and mucus. On examining the abdomen, a sausage-shaped tumor, about two and a half inches in length, could be felt in the right hypochondriac and right lumbar regions; the rectum was dilated, but contained nothing but blood and mucus, which came away in large quantities on withdrawing the finger from the anus. Various remedies having been tried in vain for twenty-four hours, inflation, by means of a bellows and long enema-tube, was resorted to. The first inflation was without benefit, but the same procedure being again practised five hours later, on withdrawing the tube the end was found covered with fluid fæces. From this time the tumor disappeared, and within a few days the child was well.

OXYURIS VERMICULARIS AND ITS TREATMENT.—A correspondent of the *Lancet* (February 21) says that failure to get rid of this annoying helminth is often due to the belief that it only inhabits the rectum and can be washed out by any injection. The fact is that they are found all along the intestinal tract, are bred up above the rectum, and only emigrate there when full grown. The following plan of treatment has been followed successfully. Interdiction of all raw or partially-cooked fruit and vegetables, sweets, preserves, figs, raisins, etc.; a daily injection, as large as can be retained, of dilute infusion of quassia, lukewarm, to which may be added a drachm [Dangerous dose.—ED. *P. M. T.*] of carbolic acid with advantage. At the same time three or four drachms of powdered charcoal daily, and five or six grains of santonin, dissolved in half an ounce of castor-oil, at night, after a few days substituting for this treatment a glass of Friedrichshall water every morning, fasting, and a mixture containing tincture of iron, tincture of nux vomica, and infusion of quassia three times a day. This will improve the condition of the intestine and diminish the mucus which is present in these cases.

VASELINE AS A BASE FOR OINTMENTS.—Dr. P. H. Cronin, in the *St. Louis Courier of Medicine*, gives some practical suggestions with reference to the preparation of unguents with vaseline as a base. Being slightly soluble in alcohol and insoluble in water, tinctures and aqueous solutions do not combine with it. It mixes with glycerin, but on the addition of water separates. Such substances as iodide of potassium, chloral hydrate, iodine, or tannin, should be finely triturated and thoroughly mixed with the vaseline. Chloroform ointment is prepared by melting the vaseline in a wide-mouthed bottle in a water-bath, at 97° Fahr., adding the chloroform, corking quickly, and shaking briskly till cold. Gynæcologists will find that by triturating borate of sodium to a fine powder, and mixing with a little glycerin before adding to vaseline, they will have a fine preparation for vaginal examinations, instead of the gritty, "salted butter" preparations which they sometimes obtain from the pharmacist.

TRANSPLANTATION OF BONE.—At a recent meeting of the Glasgow Pathological and Clinical Society (*British Medical Journal*, vol. i., 1880, p. 364) Dr. McEwen showed a boy on whom he had operated for necrosis of the humerus. The whole shaft had died, and was removed subperiosteally. New bone was produced at the upper and lower ends, but a gap of about two and a quarter inches was left in the middle, in which no bone formed. About a year after the operation it was resolved to transplant a wedge of human bone into the gap. The bone to be transplanted was taken from the tibia in a case of osteotomy, and it was cut into small pieces before being introduced into the arm between the parts of the humerus. This was done antiseptically, and the wound healed without pus. Eight weeks after there was still a gap, but it was much less than formerly, and the result was so favorable that Dr. McEwen has resolved to repeat the operation.

ECZEMA OF THE UMBILICUS IN INFANTS.—Mr. Edmund Owen (*British Med. Jour.*, vol. i., 1880, p. 357) says he has seen a good many examples of the following strange condition of the umbilicus in very young infants. Close around the cicatrix is a red and irritated or eczematous patch of skin, whilst from the depths of the umbilical fossa oozes a thin purulent fluid. For the cure of this affection lotions and all other kinds of dressings avail nothing; for at the bottom of the depression, and hidden by overhanging folds of skin, there is a small fleshy polypus, which has sprung up from the scar of the fallen umbilical cord. By the ligature of one of these growths, Mr. Owen says he has seen a boy at once cured of a condition which had troubled him and his mother from the first month of his existence.

SUBCUTANEOUS EMPHYSEMA DURING PARTURITION.—Dr. Peper narrates the case of a woman, æt. 24, primapara, who had a prolonged labor, which had to be terminated by forceps (*Le Praticien*, February 9). During the operation there was produced a swelling of the skin above the right clavicle, increasing with each effort. The swelling extended to the neck, to the face, and to the upper part of the thorax, and there was manifest crepitation. The respiration was more feeble in the right than in the left lung. Resolution of the emphysema occurred in twelve days. The author explains it by supposing that there was rupture of some of the pulmonary vessels, and passage of the air by the bronchi into the mediastinum and subcutaneous cellular tissue.—*Medical Press and Circular.*

BELLADONNA IN URTICARIA.—Dr. L. C. Smith gives a full emetic dose of ipecac, and, after it has acted thoroughly, gives fluid extract of belladonna, in small doses, every two hours, until its characteristic flush of the skin is produced on the face, or until vision is considerably disturbed. This degree of impression should be maintained, gradually diminishing the dose, for two or three days.—*Pacific Medical and Surgical Journal*, December, 1879.

The Pharmaceutical Preparations of Picrotoxin.—In a recent article by Dr. Murrell, on the administration of picrotoxin in night-sweating, etc., the statement was made that this substance is soluble in cold water in the proportion of 1 part to 180. Mr. Martindale now writes to the *British Medical Journal* (February 28), to say that he has found picrotoxin insoluble in the cold over 1 part to 480. He suggests the following as a practicable formula:

℞ Picrotoxin, gr. viij ;
Acid. acetic. glacial., ʒiv ;
Aquæ destillat., ad ℥iv.
Misce et cola.

Unless filtered, a little flocculent sediment forms in the solution, probably due to some impurity in the picrotoxin. Dr. Murrell finds this solution quite as active as the simple aqueous solution in checking night-sweating, and it is palatable. Pills containing $\frac{1}{60}$ grain, the average dose, may readily be made by triturating with a little sugar of milk and adding a minute quantity of glycerin or tragacanth. Dr. Murrell recommends a dose equal to $\frac{1}{60}$ grain three times a day, the last dose being taken at bedtime, or immediately before the time at which the perspiration usually commences.

A Simple Method of Evacuating Small Calculi.—Dr. Mercier recently demonstrated before the Société de Médecine of Paris an easy and practical means of getting rid of small vesical calculi. It consists in making the patient lie on his belly; then the calculi fall by their own weight into the anterior part of the bladder. The patient is then allowed to rise slowly on to all-fours. He micturates in this position, and the calculi, which have not yet had time to return into the *cul-de-sac* behind the prostate, are carried away in the stream of urine.—*Medical Press and Circular.*

A New Spring Tourniquet.—The *British Medical Journal* of February 21 gives a brief description, with an illustration, of a double cord of thick and strong elastic material, having a buckle at one end and a pad through which the cords run, and which can readily be slid along to any desired point. This instrument controls the circulation completely, and at the same time possesses the advantage that it can be tightened or loosened with a single hand,—an obvious benefit to the country surgeon.

Arsenic in Uterine Hemorrhage.—Dr. George S. A. Ranking says that an experience of four years in India has shown him the benefit of arsenic in menorrhagia. This affection is very common among women in India, and seems to bear some direct relation to ague. He thinks that quinine given for the ague brings on menorrhagia. Dr. Ranking gives ten drops of Fowler's solution twice a day, either alone or in combination with a mineral acid, after food.—*Practitioner*, February.

MISCELLANY.

Poisoning by Robinia Pseudacacia (Honey-Locust).—Dr. Gelcich reports in the *Pacific Medical Journal*, April, 1880, cases of children severely, but not fatally, poisoned by chewing the bark of the above-named tree. The symptoms were sleep, stupor, dilated pupils, staggering, spasmodic muscular movements, drawing of the knees to the chest. The patients also complained of burning in the throat and stomach. The youngest child, a girl of three years, was the worst. She had a mortal pallor, absence of pulse, livid lips, sunken eyes, and complete prostration and insensibility for three hours. Warm stimulants by the mouth and rectum, counter-irritation, strong coffee, smelling-salts, hot frictions, and flagellation brought her finally to life and consciousness.

Device to Insure Wholesome Food.—A Bridgeport Yankee has invented a machine to prevent marketmen from selling stale eggs for fresh. Its success is based upon the fact that whenever a hen lays she kicks backward, when her foot will strike an electric disk, which causes a rubber stamp to print the date on the newly-laid egg. The stamp is altered each day.—*Springfield Republican.*

Enema in Infantile Convulsions.—After the bowels have been evacuated by a large enema, simple or oleaginous, the following is to be administered:

℞ Moschæ, gr. iij ;
Camphoræ, gr. xv ;
Chloral hydrat., gr. ivss ;
Vitelli ovi, no. j ;
Aquæ, f℥ivss.—M.

Sympathetic Nervous Cough of Pregnancy.—

℞ Spiritus ætheris, fʒiij ;
Tinct. chloroformi comp., fʒi ;
Acidi hydrocyanici, ♏xv ;
Liquoris morphiæ sulph., fʒi ;
Tinct. cardamom. comp., fʒvi ;
Aquæ, ad f℥viij.—M.

A sixth part every six or eight hours.

Modern Homœopathy.—According to the *Pacific Medical Journal* (April), the homœopathic physician of the County Hospital at Sacramento has been replaced by a "regular," partly, at least, because of the medicine-bills being so much higher than ever they had been. Quinine pills, as an instance, were bought by the thousand.

Curious Effect of Starvation.—A correspondent, writing from the famine districts of Ireland, says, "I saw hundreds of children, from the age of two to twelve, with hair on their skinny arms and cheeks fully one inch long,—a false growth caused by decay and hunger."

A doctor at Val de Grâce has just died a victim to his devotion. A patient in the hospital to which the medical man was attached was on the point of death, and transfusion was proposed as a *dernière ressource.* The doctor in question offered his blood, which, unfortunately for him, was but too readily accepted, for a few days afterwards purulent pleuritis set in and carried him off.

WEAKNESS IS POWER.—We extract the following from "*The Medical Counsellor*,—a monthly journal devoted to the best interests of homœopathy" [italics our own]:

"But to return to Jenichen. 'Finding a bottle of the 29th dilution of Plumb. ac. dried up, the cork loose and dry, the idea occurred to him to potentize from the bottle up to the 200th. A patient affected with *hereditary* fetid perspiration of the feet *smelt once* of a few globules saturated with this potency, and in a few days was permanently cured.—Rentsch.' Dr. Hering, who is the acknowledged authority on this point, confirms this statement of Rentsch."

"WOOD'S LIBRARY OF STANDARD AUTHORS" is certainly a most laudable effort at the diffusion of knowledge among the profession, and we notice that the selection for 1880 is a very good one.

DR. HENRY C. CHAPMAN has been chosen by the trustees of the Jefferson Medical College Professor of the Institutes of Medicine and of Medical Jurisprudence in place of the late Professor James Aitken Meigs.

WE notice that new editions have been published of Dr. William B. Atkinson's "Hints of Obstetric Procedure" and of Prof. Flint's "Manual of Auscultation and Percussion."

ACCORDING to the Cincinnati *Lancet and Clinic*, the sale of fictitious medical diplomas at twenty-five dollars apiece is still lively in Porkopolis.

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NOTES AND QUERIES.

IMPURE BAKING SODA IN THE MARKET.

ANALYTICAL LABORATORY, 45 SOUTH DIAMOND STREET,
ALLEGHENY CITY, PA., April 15, 1880.

EDITOR *Philadelphia Medical Times:*

DEAR SIR,—Bicarbonate of soda, or "baking soda," when pure, is a compound of one equivalent of soda, one of water, and two of carbonic acid. By ignition it is converted into the anhydrous monocarbonate. For three weeks past I have been engaged in analytical work demanding imperatively chemically-pure reagents. I find that the dealers in chemicals mark "C. P." upon the vilest mixtures and compounds. One of the reagents which I required in this instance was pure monocarbonate of soda, and, having found that a sample which I had purchased from a dealer in New York—and which was, as usual, marked "C. P."—was anything but pure, I was compelled to prepare a pure sample for my own use. For this purpose I procured three samples of bicarbonate of soda from three different druggists in this city, with the intention of converting them into the monocarbonate, as above. I found, however, on examination, that every one of the samples contained *alumina*, and was therefore compelled, as already stated, to prepare a pure sample by other methods. I now examined quantitatively one of the samples of so-called pure bicarbonate of soda, and found it to contain .044 per cent. of *pure* alumina. This may look like a small amount of impurity; but .044 per cent. of alumina is equivalent to .387 per cent. of ammonia alum, or to .405 per cent. of potash alum, *i.e.*, in every one hundred grains of this bicarbonate of soda air-dried at common temperature there exists, potentially, about four-tenths or nearly one-half grain of alum. Pure bicarbonate of soda gives a *clear* solution when boiled with distilled water. This kind gives a markedly opalescent solution when boiled with distilled water, which opalescence speedily clears up on supersaturation with pure hydrochloric acid. The alumina was obtained *pure* by a special method.

Many cases of dyspepsia are treated with bicarbonate of soda; but such bicarbonate of soda would rather tend to keep up the disease, for albuminoids form, with soluble salts or compounds of alumina, insoluble albuminates. There are other diseases treated with bicarbonate of soda, but to these I shall not refer.

Bicarbonate of soda is also used, as every housewife (a class rapidly becoming extinct) knows, for culinary purposes, and such bicarbonate of soda is unfit for such purposes, and may account for some of the so-called alum in bread. This bicarbonate of soda is prepared from cryolite, which is a double fluoride of sodium and aluminum, and, however suitable it may be for the manufacture of glass or soap, it is quite unfit for chemical, medical, or culinary purposes. The continued use of such bicarbonate of soda, either as an antacid in dyspepsia or for bread-making, would result, sooner or later, in the production of alum dyspepsia.

GEORGE HAY, M.D., etc.,
Analyst.

THE following neat and pertinent anonymous note, which, along with an abusive editorial clipped from a "Sunday paper," was sent to the editor of this journal, will serve as a "straw" showing the character of those who deceived the worthy President of the Board of Guardians of the Poor:

"Miserable liar and coward, the women you assail are as pure as your wife; you will have your mouth slapped soon."

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OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM APRIL 4 TO APRIL 17, 1880.

BY S. O. 74, A. G. O., April 3, 1880, the following changes are made:

ASSISTANT-SURGEON G. P. JAQUETT is relieved from duty in Department of the South, and assigned to temporary duty at David's Island, New York Harbor, relieving Surgeon A. K. Smith.

SURGEON SMITH, when relieved, will report in person to Commanding Officer, Department of Arizona, for duty as Medical Director of that Department, relieving Surgeon J. C. McKee.

SURGEON MCKEE, when relieved, will proceed to New York City, and report arrival to the Surgeon-General.

The following-named officers are relieved from duty in the Departments set opposite their respective names, and will report in person to the President of the Army Medical Examining Board, in New York City, for examination for promotion, and, upon completion of examination, report by letter to the Surgeon-General:

ASST.-SURG.	DANIEL WEISEL,	Department of	the Columbia.
" "	P. F. HARVEY,	"	Dakota.
" "	C. K. WINNE,	"	the Platte.

ASSISTANT-SURGEON V. HAVARD is relieved from duty in Department of the South, and will report to President of Army Medical Examining Board, New York City, for examination for promotion, and, upon completion of examination, in person to Commanding General, Department of Texas, for assignment to duty.

The following-named officers are relieved from duty in the Departments set opposite their respective names, and will proceed to New York City, reporting arrival to the Surgeon-General:

SURGEON	C. E. GODDARD,	Department of	Texas.
ASST.-SURG.	F. MEACHAM,	"	Texas.
" "	J. C. AINSWORTH,	"	Arizona.
" "	C. E. PRICE,	"	California.
" "	M. W. WOOD,	"	the Platte.
" "	W. C. SHANNON,	"	Texas.

ASSISTANT-SURGEON L. S. TESSON is relieved from duty in Department of Dakota, ordered to St. Louis, Mo., and to report arrival to Surgeon-General.

ASSISTANT-SURGEON W. REED is relieved from duty in Department of Arizona, will proceed to Richmond, Va., and report arrival to Surgeon-General.

HORTON, S. M., MAJOR AND SURGEON.—After complying with instructions from these Headquarters of January 28, 1880, to proceed to Fort Douglas, U. T., and report to the Commanding Officer for duty as Post-Surgeon. S. O. 30, Department of the Platte, April 6, 1880.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MAY 8, 1880.

ORIGINAL COMMUNICATIONS.

ON THE USE OF INTRA-UTERINE STEM-PESSARIES.

Read before the Philadelphia County Medical Society, February 25, 1880,

BY ALBERT H. SMITH, M.D.,
President of the Society.

SO much has been said for and against the use of intra-uterine stem-pessaries, and especially have such violent and sweeping condemnations been uttered recently against them, that it becomes impossible, except through careful observation and the results of clinical experience, to arrive at a just estimate of their value and to assign them their proper place in the list of surgical appliances. While some recent authorities, as Barnes, Goodell, Tilt, Hewitt, Schroeder, and Winckel, accept them without question as therapeutic agents, to be used, of course, discreetly and judiciously,—as may be said of all therapeutic measures,—yet it must be admitted that the great proportion of gynæcologists stand with those (as Thomas and Courty, of Montpellier, and De Sinety) who teach that they are instruments whose capabilities for harm far outweigh their possible usefulness, and some even in the more extreme position of unqualified condemnation, with Nonat and Emmet. When we find it stated by the last-named eminent author—excelled by none as an accurate, honest, and conscientious observer of his cases—that "experience will at last teach every one that no permanent benefit is *ever* derived from its use, that no degree of tolerance is ever established, but that sooner or later, in almost every case, mischief will result," it can be considered only as an unpromising work to attempt to convince the mass of the profession that there can be any virtue in the intra-uterine stem. And yet I have had such excellent results from its use, and have come to look upon it as such a necessary therapeutic means in the management of certain kinds of cases, that, at the suggestion of a valued friend among us, I have determined to make it the subject of a paper, in which I can bring forward my own views and observations,—not authoritatively at all, but mainly to elicit discussion from others who have had experience perhaps far greater than my own.

The intra-uterine stem appears first to have been proposed by Velpeau, who, however, did not strongly urge its use, and it was abandoned until again brought into notice by Sir James Y. Simpson, more with reference to its use as a dynamical exciter of functional activity than as a mechanical agent in reducing deviations. Shortly afterwards Valleix and Kiwisch came out boldly in favor of its mechanical application, using it in combination with an external framework of support. Since his day it has been in use, with various modifications in shape and material and adopted with reference to its efficacy in various morbid conditions.

The forms in which it has been used are (1) the *simple* stem, with bulb or disk in the vagina, or attached to a vaginal pessary or to an external framework, and (2) the *bifurcated* spring stem. Of these, I should reject the stem of Valleix, or any of its modifications with external attachment for the purpose of a permanent fixation by grasping a solid rod in the uterine canal, as utterly unsound in theory and dangerous in the extreme in practice. The essential qualification of a *vaginal* pessary is that it shall recognize and permit the natural mobility of an organ which was arranged by nature specially for adaptation to the various changes of position of the body and the various relations of surrounding viscera which depend upon their distention or collapse, and no pessary is safely left in the vaginal canal without close watching which in any degree depends for its action on pressure upon an immovable basis of support, such an instrument soon showing that it has been adopted in violation of nature's teaching, by the painful sense of pressure at first, and soon afterwards by the development of ulcerative inflammation at the point of firm contact, and, if long left without relief, perforations and fistulous openings into the bladder, or rectum, or peritoneal cavity. If, then, such pressure is unjustifiable in the vagina, with its ordinary slight sensitiveness and its capacity of tolerance of pressure, how vastly more should we hesitate to subject to such an influence the cavity of the uterus,—so sensitive and easily excited to inflammatory action, and so liable to transmit its irritations to the neighboring peritoneum and connective tissue! If there are dangers arising from the simplest form of stem which require careful and conscientious looking after,—which I not only am free to admit, but wish to impress upon you seriously,—I think I am justified in discountenancing absolutely the fixed stem, which can never be required, and must always be vicious in its influences. This statement will apply equally to fixed stems which derive their support from vaginal pessaries not freely movable in the pelvic cavity and permitting the natural change of position of the uterus, such as the hysterophore of Zwancke or Schilling,—dangerous instruments in themselves, even without any intra-uterine attachment. In short, the only stem with vaginal combination which I have ever felt warranted in using is that of Dr. Chadwick, of Boston, of which I shall speak hereafter.

To the spring or self-retaining stem I can scarcely give a more enthusiastic commendation than to those just mentioned, although it is certainly a safer instrument, and, as it has the endorsement so fully of such authorities as Goodell and Barnes, I must accept it as a form of stem capable of useful application. The objection to it, however, not only upon theoretical grounds, but also from results which I have personally observed in many cases, is that it retains its position in the cavity by the continuous lateral pressure upon the internal surface of the uterus of expanding wings. That this continuous pressure is not so pernicious in its influence as that of the stem with external fixed attachment I am very ready to admit, because in the case of the latter the pressure is attended with rude and violent thrusts against the sensitive tissues with every change of the position of the body or of surrounding organs; but even the gentle pressure of the spring exerted uniformly and continuously tends to establish ulcerative inflammation and ultimately to imbed the arms of the stem in the uterine tissue, exciting general parenchymatous metritis and metrorrhagia. The least objectionable form of this variety is that of Chambers's, having a bifurcated vulcanite stem, making only gentle pressure; Lawson Tait's, with its soft-rubber wings, like those of Sir Henry Thompson's self-retaining catheter, and Bantock's, with the steel springs, are instruments which I should hardly expect to have retained safely in any uterus with ordinary sensibility for twenty-four hours.

All that I consider necessary or desirable for ordinary use is a stem consisting of a simple rod, terminating in a rounded expansion at one end and in a flat disk at the other. It should be of non-corrosive material, which can be made slender enough, while retaining its strength and firmness, to be slightly flexible and elastic, and to occlude as little as possible the canal of the cervix. Vulcanite fulfils these requisites completely. Its length should vary with that of the canal in which it is to be inserted, never reaching to within three-eighths of an inch of the distance from the level of the os uteri to the roof of the uterine cavity. The inner extremity should end in a slight bulb, not so large as to interfere with its ready introduction or to press with its lateral surface heavily upon the uterine wall, nor so small as to present any sharpness to catch in the rugæ of the cervix in its introduction. The other end should be inserted into the centre of a flat circular disk, smooth and free from sharp edges, thin enough to occupy practically no space in the vaginal canal, or, by its pressure upon the posterior wall, either to ulcerate the mucous membrane or excite rectal tenesmus, and large enough in diameter to present a comfortable surface to the vagina and to prevent any possibility of its entering by pressure into the cervical canal, and thereby permitting the inner end to strike upon the fundus uteri. Such an instrument can be introduced into the uterine cavity with little or no pain, can be worn, in cases free from parenchymatous metritis or parametritis at the time of introduction, without consciousness of its presence,—as I can testify from personal experience in many cases,—for months, interfering with neither the social nor the domestic duties of the patient. I have used it now for two years with great satisfaction, excluding every other form except that of Dr. Chadwick's, which in a class of cases—which I will more fully consider hereafter—I sometimes have substituted successfully. This instrument consists of the stem which I have described, having inserted into two holes in its disk, upon the vaginal surface, a wire staple so bent into a hook-like shape that it will receive into its grasp a flexible ring pessary; this to be not large enough to prevent free movement of the cervix in the pelvic cavity, but only to retain it in its direction towards the sacral hollow,—this being free from the objections urged against the stem with vaginal attachment involving a fixation of the stem in the pelvic cavity.

The introduction of the stem involves often at first a good deal of nice and delicate manœuvring when it is used in a case of flexion with much distortion of the canal, but so soon does the canal adapt itself to the presence of the straight stem that if for any reason it requires removal and readjustment the second introduction becomes very easy; and I have a patient—a lady of intelligence and close observation—suffering from retroflexion attendant upon a small, sensitive fibroid in the posterior wall, who has learned to remove and replace the stem, as well as the vaginal pessary, both of which she has now worn for several months.

That the stem should never be inserted with any considerable force need scarcely be stated: it is a rule which suggests itself to every careful practitioner. The speculum can never be used with advantage, and is usually a serious hindrance to the passage of the stem. In any case of flexion the presence of any form of speculum, even Sims's, would interfere with the free movement of the outer extremity of the stem in adapting the inner end to follow the course of the canal. Before selecting the stem, of which three sizes are necessary, —two, two and a quarter, and two and a half inches,—the length of the uterine cavity should be accurately measured by the introduction of a graduated sound, and the stem selected which will measure, from its tip to its insertion in the disk, three-eighths of an inch less than the measurement of the canal. In using the sound for this purpose, the operator should at the same time observe carefully the course of the canal and its perviousness, and, if it be very tortuous or at any point closely constricted so as to render the passage of the sound difficult, there should be introduced either a flexible or metallic bougie or a uterine expanding dilator, such as Ellinger's or Wilson's; and in some cases I have found it desirable, when the canal was very tortuous, to pass the narrow stem between the separated blades of the dilator while still in position. The plan mentioned by Dr. Goodell, in a discussion in the Transactions of the Gynæcological Society, of retaining the sound in the cavity and following its course by the point of the stem, is a good one in many cases. It is rarely of advantage to grasp the disk with any forceps to steady it, though in some cases of closely-resisting vaginal orifice, where the distance of the os uteri from the perineal commissure is much greater than the length of the stem, it becomes a necessity. It should then be grasped by some slender forceps giving a firm hold upon the disk, but occupying as little room as possible in the vaginal opening. As a rule, the easiest method of introduction of the stem is by the unaided fingers, and with a little practice one becomes quite expert at introducing the stem into a canal of any ordinary condition of flexion or tortuousness. The first step is to find the os uteri and pass the point of the stem into it directly until it reaches the point of flexion. If the os be near enough to do this before the disk enters the vaginal opening, it is a very easy thing; if not, the whole stem, disk and all, should be passed into the vagina, and, by means of the first two fingers, gradually brought into position for the end to enter the os. It should be grasped between the inner surfaces of the fingers, and, after reaching the point of flexion, the axis of the stem should be changed in its direction, carrying the cervix with it until it corresponds with the axis of the canal, when it will, in most cases, readily slip up beyond this point into the uterine cávity, until its course is arrested by the disk resting against the point of the cervix. In a retroflexion this is usually very easy, because the disk can always be lifted high enough against the vesico-vaginal septum to allow the point of the stem to be directed into the canal beyond the point of flexion; but in cases of anteflexion it is sometimes more difficult. In either case it will be found to facilitate the insertion to make a leverage upon the stem by a counter-pressure of one finger upon the disk while the other is used to make traction upon the stem, or the reverse. In retroflexion the disk would be drawn towards the vaginal roof by the second finger, while the index presses the stem downward towards the line of axis of the canal; in anteflexion the index pushes the disk towards the posterior cul-de-sac, while the second finger draws the stem forward, thus slightly counteracting the flexion and letting the point of the stem slide or creep, as it were, along the anterior wall until it slips into place. This is often aided by a pressure with the other hand upon the fundus resting behind the pubis, carrying it more towards the centre of the brim and acting in opposition to the traction forward of the stem in the vagina, tending thus very materially to straighten the canal and facilitate the passage of the stem.

The question next arises, How is the stem to be kept in position? And it is in reply to this question that we have so many of the devices which have by their pernicious influence brought the stem into disrepute. Courty and Schroeder retain it in position by vaginal tampons; Tilt, by a boxwood vaginal disk; Chambers and Bantock, by their diverging springs; Tait, by his soft-rubber projecting spikes; and others, by vaginal or external attachments. In reality, there is no difficulty whatever in keeping the stem in place: it is the least of all troubles connected with its use. For whatever purpose it may be used, the natural relation of the uterus to the pelvic canal should be insured, which is with the long axis of the uterus corresponding as nearly as possible with the axis of the superior strait of the pelvis, the os uteri looking backward towards the sacral excavation. It will readily be seen that so long as this relation is preserved the stem cannot possibly slip out, because the proximity of the os uteri to the posterior vaginal wall is so maintained that the stem, which then looks upward and forward towards the pubic brim, cannot slip out of the uterine canal any appreciable distance without the disk striking against the vaginal wall; and if the falling out of the stem has been the result of a sudden lifting of the uterus towards the pelvic brim,—which alone can cause it,—the return of the uterus to its position will make the stem again enter the canal by pressure of the disk against the vaginal wall; and never would it be possible for the stem to slide so far from the canal into the vagina as to get its upper end below the point of flexion and be unable to return. So, then, when the cervix is in its normal position in relation to the pelvic axis the stem cannot get away. Thus it will be seen that in a case of flexion with anteversion or simple descent the stem, after introduction, is firmly and surely retained, there being no disposition of the cervix to turn forward. In flexion with retroversion, until the version is corrected, the os uteri presents towards the vulvar opening, the uterine axis being in correspondence with the axis of the vagina, and there is then nothing to prevent the stem from sliding out into the vagina and being lost. But, as this is a condition which should never remain uncorrected in any patient under treatment, the retroversion always requiring reposition, so soon as this restoration is made and the cervix carried backward the stem is again safely secure. This is done by the introduction of the lever-pessary, which, passing into the posterior cul-de-sac, draws the cervix backward, restores the body of the uterus to its normal relation to the pelvic axis, and thus insures the retention of the stem, by means not used for that purpose, but for the relief of a condition quite independently necessary. Here comes into play a most valuable function of the stem, which probably all gynæcologists who use it have discovered, but which has been authoritatively suggested first by Schroeder, viz., that of a repositor more efficient and vastly safer than any of the instruments ordinarily in use. The stem converts the retroflexion into a retroversion, to correct which it is only necessary to press the disk gently backward with the finger towards the sacrum, and the uterus revolves upon its horizontal axis, the fundus passing upward and forward to its proper position. Schroeder recommends the instrument for this purpose even in cases where there is no flexion, and where the stem is removed so soon as the version is corrected, using it simply for its safety as an elevator. But unfortunately we sometimes meet with cases in which we cannot maintain the restored position of the retroverted uterus by the lever-pessary, because either from congenital anomaly, or from traumatic causes, or from gradual adaptation of the tissues to the abnormal position, the posterior cul-de-sac is obliterated and the posterior wall of the cervix is almost or quite continuous with the vaginal wall. There is therefore no resting-place for the posterior bar of the lever-pessary. Here, then, comes in the ingenious little contrivance of Dr. Chadwick, which accomplishes the same results by substituting for the backward traction of the lever-bar upon the cervix in the cul-de-sac a backward pressure of the stem upon the cervical wall within its cavity, the pressure being made by the soft ring fitting closely into the wire hook below the disk of the stem, the ring being large enough to prevent the cervix from coming forward, and yet small enough to allow a free motion in the pelvic cavity. I have had with this instrument some excellent results in cases where everything else failed. Its great objection is the tendency of the stem, by constant pressure against the cervical wall posteriorly, to make a cleft in the tissues and gradually imbed itself; but I had one patient who actually wore one of these instruments for over eleven months, to her great relief, before I found sufficient need, after repeated examination, to remove it. During this time she came to my office frequently to consult me and have examinations made, and was able to perform all of her domestic duties, as well as to enjoy social pleasures. After I removed the stem I introduced a simple ring, the lever being inapplicable on account of the conditions mentioned above; and now, nearly two years since, the flexion has never returned, and she is quite comfortable. Usually, however, I have not been able to keep in place this form of stem-pessary nearly so long.

I come now to consider the range of usefulness of the intra-uterine stem. In reference to the purposes for which it is available, its modes of action may be divided into mechanical and dynamical. Under the first head may be ranged all its applications for restoring deviations or malpositions of the uterus, which will be almost exclusively those complicated with flexions. Inasmuch as anteflexions are much more frequently found as uncomplicated with other change of relation than retroflexions, which are usually associated with version, and as they are, moreover, less amenable to other treatment than any other form of deviation, it is in this form of deviation that we are most frequently required to resort to the use of the stem, and it is in these cases that I have seen such admirable results. They present most frequently, though by no means exclusively, in nulliparous women, and are attended usually with vesical irritability and dysmenorrhœa; and if the married woman was the subject of such a condition before marriage, she will most probably, though not necessarily, be sterile. Time does not allow me, nor would it add materially to the interest of the subject, to go into the details of the cases treated, but I will simply say that I have seen all of these conditions relieved by the stem, and in a majority of those thus relieved the benefit has been permanent, the flexion not again returning. The cases in which sterility has been obviated by the wearing of a stem for a few months, pregnancy occurring shortly after its removal, have been among the most satisfactory results. That pregnancy is not prevented by the presence of the stem is well established. The relief to the bladder from pressure of a markedly anteflexed uterus by the stem when, upon examination, a tumor is found in the anterior cul-de-sac, at first giving the impression of a fibroid pressing upon the bladder, but, upon the straightening out of the uterus, with the stem disappearing entirely, is also one of the decided boons from the use of this instrument.

In retroflexion, which is much less frequent than anteflexion, and usually less marked, we very seldom require the stem, because the condition yields to the influence of the lever-pessary in elevating the fundus and removing the backward pressure; but there is a class of cases of retroflexion in which we get most signal results. These are the cases in which the flexion assumes the marked retort shape, where we find the fundus of the uterus bent backward at such an angle that it is found as a well-recognized tumor in the posterior cul-de-sac. After satisfying one's self that it is the fundus of a retroflexed uterus, a lever pessary is introduced to raise it, which at first promises good results, but only to bring disappointment time after time; the fundus and body of the uterus,—which while the finger of the operator is kept upon the front bar of the pessary remain in natural position apparently, the cervix turning back in its normal relation,—so soon as the finger is removed, begin to creep over the posterior bar of the pessary, until the latter rests not against the body of the womb, above the cul-de-sac, carrying it upward, but in the angle of the flexion, the neck in front and the fundus behind grasping it between them and pushing its anterior bar forward against the pubis, or perhaps extruding it entirely beneath the pubic arch. The lever in this case does no good, but, on the contrary, aggravates the mischief. Here, then, comes in the stem to perform an admirable function: it straightens out the whole uterine canal, takes away completely the apparent retro-uterine tumor, and the lever-pessary, now introduced behind the cervix, acts upon a normally-shaped uterus, and is enabled to perform its whole duty as an elevator with permanent relief. Many, many cases of this kind have fallen under my care in my own practice and in the practice of friends, baffled and discouraged by repeated disappointments, where the use of the stem for a few months seemed to bring about a permanent restoration of the normal uterine axis, which upon its removal showed no tendency to be again deflected, the lever having no further interference with its successful working.

There is met with not unfrequently, in the unmarried and in the sterile, a peculiar flexed uterus, presenting a soft, flaccid, slender, elongated body,—so soft and flabby that it is scarcely appreciable to the most careful bimanual or rectal touch, and one for a moment believes that he has a rudimentary uterus or a cervix without a body; and not till after the sound has with difficulty been made to reach the fundus, and can be felt through the abdomen, is he convinced that there is a uterine cavity at all; and he then feels the uterine body, into which the sound enters perhaps three or three and a half inches, like a long, slender cylinder, no thicker than the thumb. In such cases I have seen the intra-uterine stem strengthening and stiffening up the uterus, giving a basis for the lever to act upon, and between them, in a comparatively short time, the uterine walls became more condensed and appreciable to the touch, and the organ shortened and widened into a normally-shaped uterus.

The dynamic powers of the stem are exerted in its stimulant effect in two morbid conditions, viz., amenorrhœa and uterine hypertrophy, whether the result of hyperplastic increase or defective involution after pregnancy. In the first of these conditions it was that Sir James Y. Simpson brought forward to the notice of the profession his metallic stem, the results of which were due more probably to its presence as a foreign body in the uterus than to any supposed galvanic influence. In the second condition mentioned, viz., uterine hypertrophy, I have had some very remarkable results: uteri enlarged from parenchymatous metritis, and subinvoluted uteri, taking on atrophic change promptly after the insertion of the stem, and a stem which was far from reaching the fundus at first requiring to be exchanged for smaller and smaller sizes, until the uterus reached its normal dimensions.

That the stem is an instrument capable of great mischief if recklessly used I am not only free to admit, but would earnestly impress upon every member of this Society. But of what active remedial agent cannot almost as much be said? That it may light up a fire which will run wild through the pelvis, perhaps ending in suppurative cellulitis, perimetritis, and even death, is true; but the uterine sound has done the same in careful hands,—how much oftener in careless hands than the stem we cannot say. I would lay down rules of caution, from which I never depart except in rare and well-appreciated cases:

Never neglect to measure the uterine cavity; never use any force in introducing the stem; never use it when complete mobility of the uterus is prevented by old adhesions or irremovable pressure of surrounding organs; never use it where the flexion of the uterus cannot be easily corrected by the sound or other instrument previously passed into the cavity. Avoid it where there has been any history of previous peritonitis, parametritis, or pelvic inflammation of any sort; or where any induration of tissue can be detected; or where there could be the faintest suspicion of malignant degeneration; or where there is any symptom of acute parenchymatous metritis; or where its introduction gives rise to any violent or persistent pain. Keep the patient absolutely quiet for twenty-four hours, and watch from time to time until the tolerance is fully established. Use hot-water injections daily during its use, and remove it on the least evidence of its having a pernicious effect.

With these restrictions, I regard the intra-uterine stem as a safe and reliable instrument.

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A THERAPEUTIC NOTE — TARTRATE OF MORPHIA.—The new preparation of neutral tartrate of morphia is a useful adjunct to our therapeutics. Being very soluble, it passes quickly out of the system, and gives less of the unpleasant after-effects than either the muriate or the acetate. Its great solubility makes it particularly advantageous for subcutaneous injection. It gives little smarting or irritation when thus administered, and the solution never clogs the finest needles.

AN ANALYSIS OF THE SYMPTOM-ETIOLOGY AND THERAPEUTICS OF SOME CASES OF MITRAL OBSTRUCTION.

BY EDWARD T. BRUEN, M.D.,

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SO much has been written concerning the diseases of the heart that as often as a new article appears there is a strong disposition to challenge the *raison d'être* of the communication. Much of what I propose to say has been offered before to medical readers. My object will be to bespeak renewed attention to the symptoms I have collated, and to bestow especial notice upon a few of the incidents in the development of disease of the auricular surface of the mitral valve.

To avoid tedious repetition, I will epitomize the histories of my cases by relating a single one, the most typical, embracing the various physical signs and pathological lesions of my subject, and then make my comments. I would, however, have it understood that a study of six cases forms the basis of this paper, and that each in greater or less degree illustrated the features which I have determined by careful study to be the ordinary accompaniments of the lesion.

A. C., æt. 24, was delivered in 1874 of a child. Previous to this time she had enjoyed exceptionally good health, save only that as a child she was occasionally short of breath, and subject to fits of oppression and cyanosis, but which also were attended with sufficient physical disturbance to indicate to her friends that she was of a very hysterical temperament. In November, 1878, I saw her first, at which time she was the victim of secondary syphilis. She was very anæmic, and reduced in general health. The chief interest in her case centred in the examination of her circulatory system. The outline of the ventricles to the left of the sternum corresponded in the main with the outline of health, save that the apex-beat was deflected to a point, beneath the left nipple, about three inches from the median line. The right ventricle was enlarged, reaching a point an inch beyond the right of the median line of the sternum. The aorta was examined by percussion, and found to be about normal in size; but to the left, between the third and fourth ribs, a convex prominence of the bony chest-wall could be recognized. This extended from a point an inch to left of main sternum, about two inches on level of second interspace, and about two and three-quarter inches on level of third interspace. It was over this prominence a pulsation could be felt, together with a thrill which attended the pulsation. The pulsation occurred at the end of the long-pause interval of the cardiac revolution, immediately preceding the systole of the ventricles. The thrill could *not* be felt at the apex or over the aortic region.

Auscultation evidenced a systolic murmur, very hoarse and high pitched, audible everywhere over the usual distribution of aortic murmurs, even to the bifurcation of the aorta into the iliacs, though it was fainter in the arteries of the neck and at the ensiform cartilage than common.

I argued that this murmur simply evidenced an aortic roughening without obstruction, because the alterations in the ventricular wall, either of hypertrophy or of dilatation, were so slight.

The systolic aortic murmur was well heard at the apex and at the sides of the chest. It was recognized at the bifurcation of the iliacs and elsewhere by a due appreciation of the pitch of the murmur. I have been thus tediously explicit to pave the way for my next statement, that at the situation of the bulging another murmur equally loud or louder than the aortic could be heard, but yet the two murmurs were not synchronous. Auscultation elsewhere established this point as the position of maximum intensity of this new murmur. It was manifest thus far that two murmurs were to be considered, and that while one was distinctly with the systole (viz., the aortic), the other was not synchronous with it, an appreciable interval existing. Studying further, I discovered that the valvular element of the first sound appeared to be intensified at the apex; that the second sound above the base, belonging to the pulmonary artery, was intensified. Together these sounds produced a flap comparable to the flapping of a flag or sail. It was also a notable fact that the lower-pitched murmur, propagated as it was so loudly upward, appeared not to be distinctly transmitted, but was soon lost in the roar of the aortic sound. The murmur being accompanied by an anæmia which was profound, as in syphilis is common, a suspicion of its explanation as a functional murmur dawned on me. But I dismissed this when, six months afterwards, treatment had removed the anæmia but the murmur remained. It was at this time that the correspondence between this murmur and the presystolic murmur presented itself. The train of reasoning ran as follows:

1st, What is this tumor? Not aneurism, since from inquiry from the physician who attended her in 1875 aneurism was suspected on account of physical signs similar to those now recognized. But if so the aneurism would have become larger in five years' time. Moreover, the position of the tumor is not that of aortic aneurism, being too much to the left, with an interval of resonance between the left edge of the sternum and the tumor. She has occasional dropsical attacks, and still suffers from cyanosis and the "spells" which afflicted her childhood. Moreover, the pulse is always very small; and although the circulation is adequately carried on while she rests, yet evidently the venous system is more or less permanently over-filled, and compensation is just sufficient to carry on the circulation.

This has led me to my first point, viz., that the tumor is the left auricle, and that in mitral obstruction there is always more enlargement of the auricle than in mitral regurgitation, in which case dilatation predominates, just as in corresponding cases of aortic obstruction the ventricle hypertrophies to overcome the resistance; and I assert that hypertrophy, and therefore compensation, is persistent in the young for many years unless the stenosis is too great, when early dilatation can of course occur. It is to be noticed just here that so large a proportion of recorded cases occur in the young, when nutritive changes are active and hypertrophy may be persistent. A greater degree of enlargement of the auricle, then, is met with in cases of mitral obstruction than regurgitation, and only in cases of extreme obstruction do we meet the cyanosis so commonly described in mitral regurgitation. This point I have verified by a number of autopsies,—four cases out of the six on which this paper is based. To cite one case.

Before death a similarly situated but larger tumor, caused by protruding chest-walls; the cardiac dulness extended six inches to left of sternum, in line of seventh rib, five and three-quarter inches on line of sixth rib, four and three-quarter inches on line of fourth rib. It was thought before the autopsy that this tumor was the left ventricle, and a dilated hypertrophy of the heart was diagnosed weighing forty-five to fifty ounces. On autopsy the heart weighed about twenty-five ounces; the ventricle was hypertrophied and dilated; but the chief lesion was the astonishing enlargement of the left ventricle, which would admit two good-sized Sicily oranges into its cavity. The increased area of cardiac dulness was due to the displacement of the ventricle by the immense auricle distended with blood; the bulging of the chest was due to the same cause; but, the walls of the ventricle being thinned and dilated, the weight of the heart was not increased.

2. A further auxiliary symptom is that enlargement of the right side of the heart was present in all my cases. This enlargement of the right heart is more constantly present than in mitral disease; and not only so, but in the histories of my cases, unless the obstruction was extreme, hypertrophy of the ventricle and auricle appeared sufficient for the requirements of the circulation. More than this, compensation lasts longer than in mitral disease. While this is true, transitory attacks of dyspnœa, with temporary embarrassment of the circulation, are more frequent than in mitral regurgitation, and bronchitis of asthmatic type is a frequent concomitant. The associated dyspnœa becomes more severe so soon as the compensative power is exceeded, because the lesion is *de facto* more grave and the pulmonary capillaries are habitually overcharged with blood, so that slight increase in pulmonary blood-pressure produces serious effects. The pulse-wave is small in cases of mitral obstruction. This incident is understood when we reflect that there is not so much hypertrophy of the left ventricle as in cases of mitral regurgitation.

3. The third auxiliary symptom is one to which no little importance must be attached, viz., an accentuation of the pulmonary second sound. It is obvious that this is a symptom of the increased pulmonary blood-pressure, and a comparison with the pulmonary second sound in cases of mitral regurgitation leaves no doubt of its accuracy. The first sound may also become so valvular that it could easily be confounded with the second sound were it not that we are guided by the ventricular impulse. This is partly explained by realizing that the blood-pressure in the right ventricle is increased *pari passu* with the elevation of the blood-pressure in the pulmonary circulation, so the tricuspid valves close with an intensified sound, audible over both ventricles; or it may be that, if obstruction is great, only a portion of the blood reaches the ventricle at the time of systole. Thus it comes to pass that we must subtract from the first sound in part the blood element and a portion of the muscular element, leaving either a valve-sound, as heard in typhoid fever, or a dull, blurred sound, as the valves may be much more thickened than roughened; and though not prevented from approximating effectually, yet they close—lifted, as it were, into their place—without producing

a sudden clack. In any case, however, the fact remains, that the sound is better heard than in health. Reduplication of the sounds has existed as a concomitant in certain cases, but cannot be in any sense regarded as diagnostic; but if it occur, a ready explanation is offered by the fact that the overfull condition of the right ventricle leads it to contract in self-defence prior to the left ventricular systole.

Cases of obstruction have been reported without murmur. I have not seen such cases myself.

4. I regard the *position of maximum intensity of murmur* as a most important diagnostic symptom, and I differ here from other authorities. The position of maximum intensity in my cases was over the tumor caused by the distended auricle, following in this respect the rule that all murmurs are best heard over that portion of the chest-surface at which the cavity in which the murmur is generated approaches nearest the surface.

It is true it may be well heard at the apex, following in this respect the rule that murmurs are propagated in the direction of the blood-current, but they are especially loud over the auricle, so much so as to make me regard it as a diagnostic sign.

Exceptional presystolic murmurs have been reported as audible posteriorly, as those reported by Dr. Andrews, St. Bartholomew's Hospital Reports, 1877; but in these cases there was consolidation of the lungs, or the murmur may have been unusually loud.

If a systolic aortic murmur is present, it may be heard in the axillæ, and, unless precaution is taken, the presystolic murmur may also be mistaken for a mitral systolic murmur transmitted to the axillæ.

The auxiliary signs to which I have referred develop in proportion to the amount of obstruction of the mitral valve. The murmurs in my experience have often been rough and loud when the auricular surface of the valve has been roughened by calcareous deposit but no true obstruction existed: the intensity of a murmur must then be dismissed as a factor in the prognosis. A case of this sort I saw in the practice of Dr. Keating: there was a loud presystolic murmur, together with anasarca, ascites, œdema of the lungs, etc., in a child nine years of age. The condition of the child appeared desperate. But some eight months afterwards Dr. Keating asked me to see the child again, as he said the murmur had disappeared,—which was the case, the child enjoying excellent health, all symptoms of cardiac disease having vanished under appropriate treatment. In this case the auxiliary signs I have described were not present.

Dr. Sansom and others assert that thrill is invariably associated with mitral obstruction; but I have not found this the case any oftener than associated with other diseases of the valves, *e.g.*, the aortic.

The failure to detect presystolic murmur arises often from an imperfect comprehension of the physiology of its production. It occurs during the long pause after the second sound. During the first part of this period, in health, the blood is passing passively into the ventricles from the right and left auricles. Just before the first sound comes the auricular systole, and this it is which expresses all the blood from the auricles and fills the ventricles. It is now that a murmur, called presystolic, or auriculo-systolic, or post-diastolic, is developed, and immediately afterwards the first sound occurs. If the obstruction is extreme or the roughness very pronounced, a murmur may occupy the entire period of the long pause, and so become confused with a diastolic murmur; but this is not the rule. The clinical observation of this form of heart-disease is fraught with special interest. I will allude to but one of its features. Patients are, as I have said, apt to suffer from a dyspnœa which is more or less transient, associated with asthmatic symptoms in many cases and bronchitis. This occurs because the lungs are at all times in the history of the case really overfilled with blood, but owing to the perfect compensation the habitual symptoms of this condition are not present, and yet if from slight causes the vaso-motor tonus of the arterial and venous systems is increased the aëration of the blood is lessened, and there is brought about the asthmatic attack or the dyspnœa. This is not the case in mitral regurgitation, because in this form of cardiac disease the circulation accommodates itself to the gradually increased blood-pressure, and dropsies are the consequence, but in mitral obstruction the increased tension is sudden. The means by which this increased tension may be brought about are various, and their pathology has been accorded a due importance save in one case. The palpitations and increased blood-pressure can be determined by various causes, chiefly influencing the nervous system; for example, the excitements of business, the influence of a quarrel, or other physical disturbances. Functional digestive disorders may likewise have an important share in determining the dyspnœa. To understand this fact, we must recall that nitrogenous food is taken to the liver and there broken up from the form of peptones into glycogen and the products of the urea series. The excess beyond the purposes of nutrition, then, cannot be excreted by the kidneys as rapidly as they are supplied by the liver, and in the blood-vessel system these materials act as irritants, producing a recognizable increase in the blood-pressure. To the support of the fact that such an influence can be exerted, I refer to the experiments of Dr. Parkes (*London Lancet*, May 16 and 23) upon some soldiers in Netley barracks. He found that if nitrogenous food was withdrawn from their diet the arterial pressure was materially reduced, and it became elevated just in proportion to the increase of those articles of food containing nitrogenous substances. Imagine, now, a dyspeptic individual with mitral obstruction, especially of plethoric habit, after indulgence of the table suddenly seized with palpitations or with dyspnœa. Congestion of the lungs is followed by bronchitis and, perhaps, hæmoptysis. Imagine how at first these attacks are overcome; how at last the heart becomes dilated, emphysema may ensue, and the attack may one day prove fatal. Let us conceive that, added to this condition, we have deficient functional activity of the kidneys: if they are unable to eliminate the nitrogenous materials, fuel is added to the fire. This, then, is the explanation of the temporary dyspnœa which so often puzzles the observer, as no condition of the pulmonary parenchyma seems to warrant the grave symptoms. The same explanation has been assigned by Drs. Allbutt and Johnson* to the transient dyspnœa attending cases of nephritis where there is no dropsy to account for the same, and it has been termed by them uræmic asthma. I have confirmed these views by my clinical experience, and in both mitral obstruction and renal asthma the condition is recognizable by the fact that, with the symptoms of asthma, on auscultation the air enters and leaves the lungs unobstructed by spasm of the bronchial tube, but the blood is prevented from reaching the air by the contraction of the pulmonary arterioles, and so becomes deficiently aërated. If the condition persists for some time, œdema of the lungs will occur, as in mitral regurgitation; but this is not the rule. In addition to these fits of asthma we sometimes find a series of slighter attacks lasting for days, as merely shortness of breath and venous obstruction; similar attacks I have seen in interstitial nephritis, in which disease long-continued, slowly-increasing vaso-motor tonus is the rule. But ordinarily patients do well, the lesion being usually as fully compensated for as are aortic lesions. We do not have the dropsies and striking phenomena of mitral regurgitation till late in the history of a case. The *prognosis* must be based mainly upon an accurate estimate of the compensative hypertrophy, and much care must be given to avoid misinterpreting intercurrent maladies which may temporarily influence the circulation.

In this paper I have said but little in regard to the nature of presystolic murmur, in relation to its timbre, etc., although I am aware that the literature of the subject is full of details of this sort. I have insisted chiefly on the position of the maximum intensity of the murmur when one can be heard. I think that in grasping the clinical history and treatment of cardiac diseases we should give special study to the changes which occur in the heart-muscle as the effect of a lesion, rather than spend our attention on the varying character of the sounds. After diagnosticating the murmur, let the observer appraise the damage sustained by the heart. He must recur to the auxiliary symptoms such as I have indicated, and appeal to the clinical history of the case to sustain his judgment.

It is the object of treatment to prevent retrograde metamorphosis in the cardiac muscle. If my views of the importance of varying states of vaso-motor tonus are correct, then hygiene should claim an important share of our attention.

The secretion of the skin, which is supplemental to the kidney in its depurative office, must be accorded much importance. When dyspnœa commences, I think great benefit will accrue from the use of jaborandi, which has the property of stimulating the secretion of the sweat-glands, and thus will aid materially in the elimination of urea and kindred substances.*

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* British Medical Journal, September, 1877; also Lumleian Lectures, 1877.

Recognizing the danger of permitting the dyspnœa to increase, I would use the jaborandi every other day, or twice a week, according to circumstances, and in intervals of health preserve in every way the secretion of the skin.† To this end suitable clothing must be advocated, as most important. The kidneys and bowels must be made to act their parts well; the use of the natural waters containing potassium and sodium is most advantageous, as they eliminate most surely the deleterious retained solids.

In Dr. Fothergill's "Therapeutics" he says that a combination of potassio-tartrate of soda and sulphate of magnesia, in the infusion of buchu, can only be duly estimated by those who have tried it. If the oppression is severe, I would recommend elaterium. I use this drug even in advanced cases of cardiac degeneration, and do not fear the depression attending its operation, as I always employ milk punch during its cathartic action. It prepares the way most efficiently for diuretics, such as those which I have mentioned.

The management of cases requires a suitable care that an excess of nitrogenous food is not supplied; the amount required for the preservation of the tissues is small, and in serious cases much benefit will accrue from the temporary relegation of the diet to milk. Especially is this important in cases in which, together with the heart disease, the kidneys are involved. To the milk diet may be added such farinaceous substances as are most agreeable to the appetite, and occasionally animal food. I think I have observed much benefit from this method of treatment, but in many cases of dyspnœa asthmatic symptoms may become so urgent that resort must be had to those remedies which influence the circulation. Digitalis is at times most efficient, but in a large proportion of cases, probably one-half, I have been disappointed in it. This failure is because the circumstances demand a lengthened diastole even more than an increased systole. I have seen my patients livid and yet the systoles really efficient. The truth is that digitalis always increases systole, but sometimes it fails to slow the heart and lengthen diastole. On the other hand, care must be taken not to slow the heart's action too rapidly; otherwise the increased vaso-motor tension produced by digitalis becomes injurious,—at least I have seen dyspnœa persist. Digitalis is not a remedy in my experience for long-continued use in any case: it is an excellent whip, but an inferior drug if used too long; nevertheless it is more frequently of use than most of the cardiac stimulants. Recognizing the necessity for prolonged diastole to relieve pulmonary congestion, and our occasional powerlessness to aid by digitalis, I wish, however, to advocate cupping, or even moderate bleeding; in these means we have a real resource, which is indicated by nature in the epistaxis which is so salutary. I remember a patient who frequently endeavored to produce "nose-bleed" with benefit.

Morphia, bromide of potassium, chloral, and belladonna all have their value as remedies for the dyspnœa or asthma; and in this class ether, combined with ammonia, must be included, as very frequently of service.

It has been proved by Küssmaul and Tenner that when the carotids were compressed in man the face became pale, pupils first contracted, then dilated, respiration slow, with giddiness, staggering, and the men would have fallen if they had not been supported, and in some cases vomiting and convulsions appeared. If in animals the circulation is cut off from the medullæ, then convulsions will occur, but not if chloroform or ether be previously administered. Now, if the pathology of the dyspnœa, etc., which I have stated is correct, the above-named agents, which produce their effects by acting upon the central nervous substance or obtunding the sensibility of the terminal vaso-motor nerves or the muscles in the arterioles (nitrate of amyl and belladonna), are suitable agents with which to cope with a disease arising from an excited nerve-influence.

In point of fact, I have discovered that morphia given hypodermically will relieve dyspnœa where digitalis has failed. It operates best if given in this way, as it is more quickly active than if given by the mouth. Associated with this measure I use a combination of forty minims of Hoffman's anodyne and five grains of carbonate of ammonium. Bromide of potassium is a good remedy, but does not act quickly enough. Of nitrite of amyl my experience is favorable, but in renal asthma Dr. Allbutt rejects this remedy as useless. Dr. Johnson says it is frequently useful. Neither of them mentions its use in cases of cardiac dyspnœa, where the same pathology must, I think, prevail. We all understand that the presence of non-aërated blood raises first the arterial and secondly the venous pressure, owing to the spasmodic closure of the blood-vessels. Why is not the question oftener dealt with in the treatment of cardiac dyspnœa?

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* For some interesting views substantiating the effect of the deficient action of the skin as a means of materially increasing blood-pressure, consult a paper by Dr. Semmola, of Italy, read before the International Congress at Amsterdam, a *résumé* of which is published in the British Medical Journal, September, 1879; also Gazette Médicale de Paris, 1875.

† The preparation of fluid extract of jaborandi made by Mr. T. G. Lightcapp, Falls of Schuylkill, is especially prompt and reliable in its effects.

I conjoin, then, the use of these agents, combined with stimulants if required, and oftener relieve symptoms than when using digitalis.

These cardiac and vascular depressants must be sedulously avoided (with the exception of morphia, which is nearly always useful) when cardiac dilatation with fatty degeneration has advanced. I think jaborandi should be included as also dangerous in this stage, depressing the heart or pneumogastrics. I have seen fatal syncope follow its use; and I always carefully watch my patients while they use this remedy.

In the intervals of ease, when no cardiac symptoms call for treatment, it is possible that vaso-motor and digestive stimulants may be required, such as strychnia, zinc, or arsenic. I would recommend the valerianate of zinc in half-grain doses as a prophylactic agent against the waves of nervous excitement, which lead to dyspnœa.

HYGIENIC AND THERAPEUTIC RELATIONS OF HOUSE-PLANTS.

BY J. M. ANDERS, M.D., PH.D.

Read before the Alumni of the Auxiliary Department of Medicine, University of Pennsylvania, February 6, 1880.

THE old question of the effects of living plants on the air of houses is one of considerable interest. The family doctor is ofttimes confronted with the query, "How do plants in rooms affect the health of the inmates?" Formerly, it was the universal opinion that they were injurious to health, particularly in the sleeping-room and sick-chamber. Unfortunately, this still continues to be a popular impression. To review the various views on this topic down to the present would be foreign to the scope of this article and quite out of place. The discussion will necessarily be confined to the present state of our knowledge concerning the subject, and especially such of its bearings as are interesting from a medical point of view.

Three of the chief functions in plant life are the absorption of carbonic acid, the exhalation of oxygen, and the generation of ozone. Now, it has been conclusively shown* that variations in the amount of these gases from the presence of any number of plants have no appreciable effect on the air of an apartment, the absorption and exhalation of these substances being carried on too slowly either to improve or to vitiate the air.

There is, however, yet another process in plants, which in this connection is of far greater importance, viz., that of *transpiration.* By this term is meant the exhalation of moisture by the leaves. About this function very little was known until recently. Careful investigations of the subject have been made by the writer, to which brief reference only can be made here, for they have formed the basis of a paper elsewhere.† It may suffice to say that the average rate of transpiration for plants having soft, thin leaves, as the geranium, lantana, etc., is one and a half ounces (by weight) of watery vapor per square foot of leaf-surface for twelve diurnal hours of clear weather. In order to convey some notion of the great activity of this function, it might be stated that at the above rate the Washington elm, at Cambridge, Massachusetts, with its two hundred thousand square feet of leaf-surface, would give off seven and three-quarter tons of water in twelve hours. In the twenty-four hours an indoor plant will transpire more than half as much as one in the open air. It would appear to follow naturally from these facts that growing plants would be capable of raising the proportion of aqueous vapor of the air of closed apartments. And this suggestion prompted the writer to make observations with the view of establishing this fact experimentally. By means of the hydrometer, the atmosphere of two rooms at the Episcopal Hospital, in which the conditions and dimensions were in every respect similar, were tested simultaneously, in order to note the variations produced by growing plants. In the window of one of the rooms were situated five thrifty plants, the other contained none.

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* Pettenkofer, Pop. Science Monthly for February, 1878.

† See American Naturalist for March, 1879.

For eighteen consecutive days the dew-point of the room containing plants gave an average complement one and a half degrees lower than the room in which there were no plants. Thinking that possibly this difference of humidity might not be owing solely to the presence of plants, the conditions were varied, and further observations made, with similar results. The manner in which these investigations were carried out cannot be here detailed. The following conclusion should, however, be quoted: "During the summer months, when the windows are thrown widely open and the doors kept ajar, the influence of transpiration is quite inconsiderable; on the other hand, when the interchange of air is not too rapid, a sufficient number of plants, well watered, have the effect (if the air be not already saturated) of increasing the amount of moisture to a considerable extent."* This point, as will be presently seen, is of special importance where houses are heated by dry-air furnaces.

Although science cannot readily determine the exact relative humidity most conducive to health, still, according to the best authorities on the subject, it is considered that about seven-eighths of what the air will contain at a given temperature is the proper standard. By repeated testing the writer has recently found that the degree of humidity is generally below that standard in this latitude. It was also found that air warmed by an open fireplace, or by air heated by steam, gave a complement of the dew-point from two to four degrees Fahrenheit greater than the external air, and in the case of rooms heated by a dry-air furnace the complement was from five to seven degrees greater at the same temperature. From this exhibit it will be seen that the atmosphere of a room warmed by dry air contains far too little moisture to be healthful. The peculiar effects of dry air on human beings are well known to the progressive practitioner. With respect to this question Prof. A. Stillé observes, " . . . A great demand is made upon the system to supply the air with moisture; the skin and pulmonary mucous membrane are dried, and a condition is induced which is expressed in irritability of the nervous system, paleness and susceptibility of the skin to cold, liability to pulmonary diseases, and, in a word, deterioration of all the functions."†

It is true that in special states of the system—*e.g.*, in chronic rheumatism—dry heat is beneficial; but this is no argument against the benefit ordinarily derived from a proper amount of moisture in the atmosphere. On the other hand, if the presence of a certain number of thrifty plants in an occupied room warmed by dry air would have the effect of raising the relative humidity to the extent indicated, it is clear that we possess in them one of the readiest means of obviating these evil consequences. In all instances, then, in which artificial heat is used, but particularly in the case of dry air, as that furnished by furnaces, plants become, under proper regulations, hygienic agents of special value.

Were this article intended for popular reading, much might also be said in favor of keeping house-plants for the benefit they confer in delighting our senses and ministering to our æsthetic tastes; but we are discussing the question from a strictly medical point of view, and such matter would be somewhat irrelevant.

Since it is well established that certain maladies are benefited by a moderately moist and warm atmosphere, and since plants can, as has been shown, furnish this moisture to the warm air of rooms, they might with propriety be classed as *therapeutic* agents; but to draw lines of distinction between their hygienic and their therapeutic application would be an unnecessary refinement of terms.

Of course it is chiefly in diseases of a chronic nature, and particularly those affecting the lungs and air-passages, that we should expect to derive good results from such a measure as stocking the sick-room with growing plants, for it is in such cases that dry heat does the most harm. Still, they would prove beneficial also, in a less degree, in acute diseases, especially the continued fevers, and, perhaps, membranous croup, where moisture in the air is so desirable. House-plants have, however, a sphere of usefulness which is independent of atmospheric humidity. In nervous disorders of the functional class, such as melancholia and chlorosis, in diseases of the mind proper, and in other allied conditions (excessive grief, ennui, etc.), where it is necessary to divert the mind or relieve tension, nothing is more efficient than the pleasing occupation of studying and caring for plants.

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* "Beneficial Influence of Plants," American Naturalist, December, 1879.

† Therapeutics, vol. i. pp. 637, 638.

But it is in that sweeping disease phthisis that plants offer the best hope of success as therapeutic agents. The importance of this point demands that it should receive careful attention.

Deeming it necessary that the experimental data should receive supporting evidence of an unequivocal character before the efficacy of plants in the treatment of this disease would be firmly established, the writer opened a correspondence with some prominent practitioners, besides making inquiries of those with whom he came in contact, soliciting a brief statement of their observations in regard to the effects of plants on the sick.* The almost unvarying response has been in about the following terms: "I cannot help you, for my attention has never been directed to the points in question." A notable exception is the letter of my friend Dr. Hiram Corson, of Conshohocken, Pennsylvania. This letter I have already published in a previous article, but the great interest of the case described will be ample apology for inserting an extract from it here. He writes, "My mother, her two sisters, and only brother all died of consumption under fifty years of age. All the children of my mother's sisters and brother, though they lived to a good age and enjoyed good health, finally died of consumption. On my father's side there was not a taint of any disease, but great strength and vigor. Three of my brothers, active, energetic men until within a few years of their death, died of consumption at the ages of fifty-five, fifty-seven, and seventy-eight respectively; and a sister died of the same disease at sixty-six. I mention these cases to show that the germs of the disease were with the family. Thirty years ago my eldest sister, then above fifty years of age, was reported by her physician, Dr. J. P., a victim of tubercular consumption, to which disease she would succumb before the coming summer. She was a lover of plants and flowers, and cultivated them in-doors and out. The spring saw her again moving among her plants, and the winter found her confined to the house, and sometimes for weeks to her bed-chamber, which, like the sitting-room, was literally a green-house. Visitors and friends often spoke to her of the impropriety of having so many growing plants in her room, reminding her of the tradition that they were injurious. Still, every spring found her again on her feet, in the yard and garden, nursing her plants, and every winter confined to her room. And thus she lived, year after year, until two years ago, when, at the age of eighty-five, she passed away. I have seen a few others have plants growing and blooming in their chambers, but never one who so lived among them as did my sister. Winter after winter we looked for her death, the cough, expectoration, and weakness justifying our apprehensions, and yet her eighty-fifth year found her cheerful and happy, living among her plants and enjoying the society of her friends. May we not believe that the vast exhalation from these plants—water purified and medicated by their vital chemistry—prolonged her life?"

Finding that most of my correspondence yielded but barren results, I determined to avail myself of non-professional experience; and, accordingly, I began visiting the gardeners and florists of Philadelphia, requesting answers to a list of questions bearing on this subject. Only a brief summary of the results obtained can be here given. Thirty florists have already been visited in this way.

Twenty of these, with ages ranging from twenty-five to eighty years, are strong and vigorous, and have always enjoyed good health. They all work from ten to sixteen hours daily, and have followed this pursuit for periods ranging from six to sixty years.†

Of the remaining number, four are occasionally attacked with rheumatism of mild type, ascribing their symptoms, and doubtless justly, to wettings, the result of carelessness while watering the plants, or from contact with the wet leaves.

One of the gardeners, a boy, aged fourteen, has been at this occupation for a year, working steadily ten hours daily. Prior to taking up his present employment he had been working at the drug business for a year. While thus engaged his health failed considerably, and he became pale and emaciated. He had never been strong previously, though not to say diseased. No sooner had he adopted his present avocation than he began to improve in vigor, and now he is the picture of robust health.

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* The writer would still be grateful for any interesting information upon this subject, for without aid it would be almost impossible either to establish the position taken or to correct temporary conclusions, and he wishes to make a further study of the subject. Address 1638 North Eighth Street, Philadelphia.

† The histories of three of these subjects have been furnished through the kindness of Professor J. T. Rothrock, to whom my wants had been made known.

Another florist, aged thirty-one, says that prior to going into the business he had "weak eyes," but that as soon as he became a florist, eight years ago, his eyes began to improve, and in a few years entirely recovered.

Still another of the remaining ones has been subject to severe colds since he has been working among plants, but he admits that he has been exceedingly indiscreet about clothing, etc., in going from the hothouse to the outer air.

Mr. W., aged thirty-five, has been in the business for twenty years, and is among his plants at least ten hours daily. Phthisis is hereditary in his father's family, and my informant himself (Mr. W.) has long since been pronounced a consumptive by his physician. He states, however, that he has always had good health, except simply the annoyance of a slight cough and a little expectoration occasionally. He is still nursing his plants and enjoying life.

This gentleman kindly related to me a brief history of his deceased brother, and also that of their father, likewise deceased; and, for the sake of convenience, I have classed them among those whose histories I obtained directly.

The brother died at the age of thirty-six years. He was engaged in gardening from boyhood up to within a year of his death,—continually at work among his plants. During all the time he followed this vocation he enjoyed fair health. A short time prior to his death he forsook his calling and took a store in the same city, and almost simultaneously he became a victim to consumption, which caused his death in a short time.

The father of these two patients, although he was predisposed to phthisis, followed the occupation of florist from early life to the age of sixty, and during all those years was in good health. When about sixty years of age, while he was assisting at the erection of a church, he met with an accident which injured his ribs (so the son says) and disabled him for work. But a few months later he went into consumption, which quickly proved fatal.

Now, may not the fact that he was unable to be among his plants have had something to do with the causation of his last illness?

From the above cases it will be seen that what we had deduced from experimental results concerning the health-giving effects of plants (which is owing to transpiration increasing the humidity of the air,—the plants acting as natural and perfect "atomizers") is entirely in harmony with what is observed concerning the effect of sufficiently moist warm air in many cases of phthisis; and if it is true, as we have attempted to demonstrate, that house-plant hygiene constitutes a valuable preventive measure where there is hereditary tendency to certain diseases, then it ought to be definitely and thoroughly understood, and it is of vital importance that it should be adopted in cases where there is a known predisposition to phthisis, for half of the cases are supposed to be preventable, whereas if the disease be allowed to develop, complete recovery is not to be expected. Furthermore, though the keeping of plants does not "cure" confirmed cases of phthisis, it is nevertheless very useful to prolong life, and by ameliorating the distressing symptoms renders existence at least endurable,—an office not to be despised in such a wide-spread and lingering disease.

Observation teaches that advanced cases of phthisis (as, for instance, where cavities exist) are benefited by a more decidedly moist atmosphere than is required in health, and hence they will require a much greater profusion of plants in the room than those who have the disease in a more incipient stage.

The plants should be well selected and kept in a thriving condition. The chief points to be borne in mind in the selection of the plants are, first, that they have soft, thin leaves; secondly, foliage-plants or those having extensive leaf-surface are to be preferred; thirdly, those which are highly scented (as the tuberose, etc.) should be avoided, because they often give rise to headache and other unpleasant symptoms.

In order to facilitate a practical application of the data gained by experiment, the following formula has been carefully prepared: Given a room twenty feet long, twelve feet wide, and ceiling twelve feet high, warmed by dry air, a dozen thrifty plants with soft, thin leaves and a leaf-surface of six square feet each would, if well watered, and so situated as to receive the direct rays of the sun (preferably the morning sun) for at least several hours, raise the proportion of aqueous vapor to about the health standard.

This formula may serve as a guide in the use of plants for hygienic purposes; but under conditions of actual disease it will be necessary to increase the proportion of plants according to the degree of humidity sought, or as the indications of individual cases may demand.

It should be stated that, to obtain the best results, both the rooms occupied during the day and the sleeping-apartment should contain plants. It was for a long time the opinion of scientific interpreters generally that plants in sleeping-apartments were unwholesome because of their giving off carbonic acid gas at night; but it has been shown by experiment that it would require twenty thrifty plants to produce an amount of the gas equivalent to that exhaled by one baby-sleeper: so this is no valid objection to their admission, and not to be compared with the benefit arising from their presence.

We have no desire to underrate other means of treatment while upholding the importance of our subject. Exercise in the open air is of immense advantage in phthisis, and during the warm season the consumptive should be moving among his garden-plants, and, if he be a lover of flowers, should assume personal charge of them. Again, no one will dispute the value of certain tropical climates for judiciously selected cases of phthisis; but the practice of indiscriminately sending patients to them is certainly to be deprecated.

New health-resorts (many of them comparable only to the patent nostrums) are constantly being pressed upon the public, but too often a trial of them brings only disappointment, and the consumptive is rendered more miserable by the annoyance of travel and the anxiety of being separated from all the endearing relations of home. And even where travel is desirable, it is, for financial or other reasons, quite impossible in a large proportion of cases.

To have always at hand and readily available so complete and withal so agreeable a health-resort at home as that furnished by a room well stocked with plants must prove an inestimable boon to the despairing invalid.

SYSTEMIC POISONING BY THE EXTERNAL APPLICATION OF CARBOLIC ACID.

BY COMEGYS PAUL, A.M., M.D.

As poisoning by carbolic acid has of late elicited considerable interest in the profession, perhaps it will not be inappropriate to relate the following case:

A young convict, about 24 years old, complained of the excessive discomfort caused by a crop of herpes upon his right side, extending from the nipple to the axilla. I ordered the part to be painted with a saturated solution of carbolic acid, with the effect of entirely relieving the pain. It was then dressed with vaseline. Two days after, he asked to have the acid again applied. Within twenty minutes after it was done he became faint and dizzy, very weak in the legs, and exhibited all the signs of a general collapse. The condition lasted about half an hour, when I was relieved of considerable solicitude by his gradual revival.

The surface covered by the carbolic acid was not more than five square inches, and the second application came in contact with only a partially denuded cuticle of much smaller extent.

PHILADELPHIA, April 4, 1880.

POISONING BY OIL OF WORMSEED.

BY I. C. GABLE, M.D.

MR. N., æt. 63 years, took, in divided doses, during one day, nearly an ounce of wormseed oil (ol. chenopodii); on the evening of the same day, after some peculiar symptoms, he fell asleep, and soon passed into a comatose state. I was called to see him at 10 A.M. the next day, when I found him still in a profound coma, perspiring profusely, and exceedingly salivated; respiration 33; pulse 106; pupil somewhat dilated.

I diagnosed wormseed oil poisoning, and gave a very unfavorable prognosis. I saw the patient again at 6 P.M., with symptoms of rapid dissolution, pulse being 143 per minute, and respiration 44 per minute. The patient died at 9 P.M. of the same day. Dr. J. W. Kerr and I held an autopsy, but found no special symptoms in the stomach, though there was considerable smell of the oil about the abdominal viscera.

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LOCAL APPLICATION IN NEURALGIA.—Chloral and camphor, of each equal parts, rubbed up in a mortar until a syrupy liquid is formed.

TRANSLATIONS.

Tannate of Quinine.—Dr. A. Becker, of Bonn (*Berliner Klin. Wochens.*, 1880, p. 77), alludes to the difficulty experienced in inducing children to take quinine, and says he has asked himself the question whether some compound of cinchona could not be found which would be useful and at the same time not so disagreeable to the taste as the ordinary preparations of quinine. These are bitter in proportion to their solubility in saliva. Of the officinal preparations which are employed as antipyretics, bisulphate of quinine stands first in point of bitterness; sulphate of quinine comes next; then chloride of quinine; and, last, pure, that is, uncombined, quinine. Professor Binz suggested to Dr. Becker that possibly tannate of quinine might be useful if the bitterness of the remedy were to be avoided. This preparation has been known some years, and was formerly much used where the effect of both constituents was desired in a combined condition. In 1872 a discussion on the use of tannate of quinine took place in the French Académie de Médecine. But this came to nothing. In Becker's opinion the combination of the two medicines is not a happy one for employment in pyrexia, since it is not soluble enough. Nor is it the best preparation when the effects of tannic acid are desired, for there is no object in combining the acid with quinine in such cases. The value of tannate of quinine lies in the fact that, when properly prepared, it is quite free from taste, for it dissolves only very slowly in saliva or water. It might be thought that this quality of insolubility would militate against the usefulness of the drug, unless it could be proved that it is more soluble in the fluids of the intestinal canal. In order to settle this question, Becker took upon an almost empty stomach a decigramme (1.6 gr.) of tannate of quinine, with a little water, and drank immediately afterwards a wineglassful of madeira or six drachms of cognac. Within fifteen minutes quinine appeared in the urine. The same amount of the drug, followed by lighter wine, did not produce a similar effect. Becker attributes the difference to the different stimulating effect of the wines, and not to solution of the drug in alcohol. The presence of hydrochloric acid aids in the solution of the tannate of quinine. It appears, then, from Becker's experiments, that this salt is taken up into the circulation, although somewhat slowly. Having made use of it in malarial fever, bronchitis, trigeminal neuralgia, and in a large number of cases of whooping-cough, Becker recommends its further use very warmly. As experience teaches that the best medicines often fall into discredit because they are poorly made or adulterated, the following points should be attended to. 1. The tannate of quinine must be made with pure quinine, and must contain no less active ingredients. 2. On account of the relatively small proportion of base, the dose must be one-half larger than that of the crystallized salts ordinarily used. 3. The absorption of the preparation should be aided by every means: it is well, therefore, to administer wine simultaneously. 4. When the patient can conveniently take the ordinary quinine salts, these are to be preferred to the tannate.

The Simultaneous Employment of Calomel and Iodide of Potassium in Diseases of the Eye.—W. Schlaefke (*Arch. f. Ophthalm.*, xxv. 2, s. 251; *Cbl. f. Med.*, 1880, p. 86) gives the following conclusions. 1. During the use of iodide of potassium in any given case, calomel applied to the eye arouses severe inflammation,—a fact formerly known, but forgotten. 2. Iodide of potassium taken inwardly is rapidly taken up by the organism, appearing in a very short time in the various secretions and excretions, and showing itself in the tears within a few minutes. 3. Given in the dose of six grains twice daily, the iodide is continually present in the tears in notable quantity. 4. While calomel is very slightly soluble in water, it is ten times as much so in a three-quarter per cent. solution of chloride of sodium. 5. Strewn on the conjunctiva, calomel is readily dissolved, and exercises a chemical effect. 6. When this occurs during the administration of iodide of potassium, iodide and ioduret of mercury are found in the tears, and these substances, which are caustic in their action, quickly set up inflammation. For this reason calomel is not to be used locally during the administration of iodide of potassium.

Inoculated Tuberculosis.—F. A. Rheinstadtler (*Cbl. f. Med.*, 1880, p. 85; from *Archiv. f. Exp. Path.*, etc.) cultivated tuberculous matter in Bergmann's solution and injected the resulting fluid into the trachea and lungs of dogs and rabbits. In other cases tubercular sputa and small bits of scrofulous glands were introduced into the trachea. Meantime, another animal had meal-broth thrown into the trachea as a control experiment. While in the latter case only inflammatory changes could be found subsequently, the animals injected with tuberculous matter showed in every instance tuberculosis of the lungs, the other organs, especially the liver, being also occasionally the seat of tuberculous infiltration. The tubercles lay in the alveolar parenchyma or in the adventitia of the bronchi and vessels. They were composed of round cells. Occasionally giant cells were also found. In the tubercle-cells minute nuclei could be seen, which Klebs believes to be organisms. The author concludes that tuberculosis is an infectious disease, dependent upon the entrance of certain minute organisms into the system.

SALICYLATE OF SODIUM IN ACUTE RHEUMATISM.—A. Diesterweg (*Deutsche Med. Wochens.;* from *Cbl. f. Med.*, 1880, p. 95) reports 100 additional cases treated with this remedy. Of these, 36 were cut short in 24 hours, 85 in 48 hours, 98 in 72 hours, 1 in 84 hours, and 1 was uninfluenced. The amount of medicine taken was, in 46 cases, 5 to 15 grammes (77 to 221 grains); in 41 cases, 20 to 28 grammes (328 to 352 grains); and in 12 cases, 30 to 40 grammes (462 to 616 grains). In 3 of the cases cut short, purulent joint-trouble followed in the ankle, which was cured by drainage. Relapses occurred during the use of the medicine in 11 cases, 4 of which were in the first week and 4 in the second. Cardiac complications occurred only 5 times (and of these 3 had had cardiac trouble before) in 100 cases, and 20 relapses. Pleuritis occurred 3 times. In 1 of these cases there had been previous pericarditis. In addition, the complications took a favorable course under salicylic treatment in part without fever.

INTERDIGITAL TUMOR.—A woman, who had suffered for six months with a peculiar tumor in the first interdigital fold of the right hand, applied to M. Despres for relief. At first he believed it to be an induration of the skin; but a small black speck upon its surface inclined him to consider it a sebaceous cyst or a transformed wart. Pressure caused the escape of a worm-like body, and further examination showed that the tumor was a sebaceous cyst with greatly thickened walls and hypertrophy of the skin. The position of this tumor was remarkable: possibly it may have arisen from a small downy hair growing between the fingers and occasioning irritation and the consequent formation of a cyst. M. Despres removed the little tumor without difficulty, and, joining the wound by diachylon-plaster, gained union by first intention.—*Mouvement Méd.*, 1880, p. 74.

ERYSIPELATOUS PNEUMONIA.—J. Strauss (*Cbl. f. Med.*, 1880, p. 110; from *Rev. Mens. de Méd.*) reports the case of a strong man of 26, attacked with facial erysipelas, in whom, on the sixth day, there supervened pain on swallowing, intense redness of the pharynx, tonsils, uvula, and tongue, fever, dry cough, and piercing pain in the side. Pneumonia of the right upper lobe was made out, which soon spread to the rest of the lung, and death ensued. The autopsy showed the larynx normal; the trachea, however, together with the larger right bronchus and its branches, showed an intense scarlet coloration, and there was red and gray hepatization of the right lung. The pneumonic exudation consisted of white blood-corpuscles; there was no trace of fibrinous exudation.

SYMMETRICAL GANGRENE OF THE EXTREMITIES IN THE COURSE OF NEPHRITIS.—M. Debove (*La France Méd.*, 1880, p. 139) reports the case of a woman of 25 who began to notice œdema of the feet and legs during pregnancy, and later, after premature delivery, suffered from convulsive attacks. The physician in attendance ordered ergot, which Dr. Debove thinks may have accumulated in the system on account of the condition of the kidneys. At all events, the first symptoms of gangrene appeared two months later in each of the fingers symmetrically. The patient, who suffered severely from attacks of dyspnœa, in one of which she finally died, complained of nothing but the pain in these fingers.

PODOPHYLLIN.—The following preparation is said to be more regular and certain in its effects than is the drug when given in the pill form:

℞ Podophyllin, gr. iss;
Alcoholis, f℥i;
Tincturæ zingiberis, gtt. ij.—M.

A teaspoonful in a glass of water every evening on retiring, or every other day, as required.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MAY 8, 1880.

EDITORIAL.

PRESCRIPTION-WRITING—DRUG-FURNISHING.

THERE are certain indisputable facts in relation to the medical profession of this and many other cities, which, taken together, are rather startling in their suggestiveness. Stated briefly, these facts are as follows. The great bulk of the medical profession must derive their support chiefly from families in which the joint annual income is not over two thousand dollars. The retail druggists do, in the aggregate, an enormous amount of counter-prescribing,—must do it, indeed (whether they desire to or not), in order to hold their custom and make a livelihood. The office-practices of many homœopathic practitioners away from the centre of the city are very large, apparently larger than those of similarly located regular physicians of corresponding standing in the community. The druggist, prescribing over the counter, gives the car-conductor or the mechanic who has contracted a cold in the discharge of his duty, or a gonorrhœa in the search after happiness, a bottle of shrewdly selected medicine, and charges probably fifty or seventy-five cents therefor. The homœopath exacts a dollar, and furnishes the patient with, it may be, a skilfully compounded remedy. The regular physician gives for the dollar a prescription calling, likely enough, for the same remedies as are given by the homœopath, but requiring a further payment of fifty or seventy-five cents to the druggist.

When these facts are placed thus in collocation, do they not suggest the suspicion that at least one source of the success of the abounding homœopathic sharpers is that people to whom a penny is a penny have found that they get cured about as well for the dollar as for the dollar and a half? For it must not be forgotten that in many cases the successful homœopath is a well-educated doctor who deceives as to his theory and furnishes his own medicine.

The most natural remedy for the evil outshadowed in the preceding paragraph is, of course, the furnishing of medicines by the physician to the patient; but there are many of the profession to whom such action partakes of the nature of quackery. Such a prejudice is, however, really so baseless as to be almost beyond the reach of argument. It may not be wise or expedient for us to furnish our own medicines, but the man who practises fifteen miles from here, in the country, is not a quack because he has a medicine-chest in his buggy, and certainly driving fifteen miles in a buggy does not make what was an honest act at the beginning of the journey a dishonest one at the end of it. The allegation of quackery is absurd. The country physician furnishes medicine because it is expedient for him to do so, and the city doctor long since ceased to dole out pills and powders because it seemed expedient to write prescriptions only. There is no moral question whatever involved in the matter, and it is a grave error to make an ethical one out of it. Will it pay me to furnish medicines?—is the question each doctor ought to be allowed to decide for himself.

Further, because twenty years since it was expedient for the profession to yield up its hold on pharmacy, it does not follow that it is inexpedient now to reconsider such action. Pharmacy is a very different science or art from what it formerly was. A retail drug-store of the present is a "drug-*store*," and not a "*chemist's shop*," as it used to be. Granules, sugar-coated pills, capsules, triturations, lozenges, etc., etc., have replaced the decoctions and infusions of our fathers, and a small case will represent the Pharmacy or Laboratory of the old-time doctor.

The advantages and disadvantages of furnishing medicines are both numerous and apparent. We do not propose to-day to discuss them, but content ourselves with the statement of our belief that to give medicines will "pay," in the largest sense of the term, some physicians, and will decidedly not remunerate others. What we plead for is the fullest liberty to each member of our profession to act according to what he deems his own best interest. What we would stamp out, if we could, is the tyrannical feeling that exists in certain quarters, and which judges the man who uses drugs and not prescription-blanks.

THERE seems to be a real danger that the *Index Medicus* shall fail for want of support. As this would be an ending most disgraceful, as well as most harmful, to the profession, we earnestly appeal to our readers to subscribe to this unique and all-important periodical. In order to determine where the profession is responding with most alacrity, we have taken the trouble to go over the subscription-list, and find that New York takes one hundred and eight, Boston and Philadelphia each forty-seven, copies; while England is satisfied with twenty, France with two, Germany with twenty-four, and Japan with two copies. Our Western cities, judged by this standard, seem to have very little sympathy with high medical culture. Thus, Cincinnati takes only four copies, and Chicago two.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting held at the hall of the College of Physicians, Philadelphia, February 25, 1880, the President, Dr. A. H. Smith, called Dr. John H. Packard to the chair while he read a paper "On the Use of the Intra-Uterine Stem-Pessary" (see page 389), which elicited applause and a vote of thanks from the Society.

DISCUSSION UPON THE INTRA-UTERINE STEM-PESSARY.

In opening the discussion, Dr. W. H. Parrish said that one point in the paper that had especially attracted his attention was the frequency of cases which the lecturer encountered where the stem-pessary could be allowed to remain. His own observation had been that very few patients can bear the presence of the stem-pessary without ill consequences. This instrument would seem to be of special use in simple flexion of moderate degree; but such cases are just as well without treatment. The patients that more urgently need relief are those who have metritis or parametritis, and, of course, it is just in such cases that the use of the stem-pessary would be contra-indicated. The particular form of stem-pessary recommended is, perhaps, the best, and one that the speaker himself would prefer to use, and had used, but he had generally found that it caused so much irritation that he was speedily obliged to remove it. He agreed with Lawson Tait in the opinion that there are a very few cases which can be treated in no other way than by the intra-uterine stem-pessary, and to these he would limit its application.

Dr. H. Lenox Hodge said that he had been particularly struck with the care which the lecturer urged to be employed in the use of the stem-pessary. The mere fact that it might do harm under careless management would not constitute a legitimate objection to the use of the instrument; he had no opposition to make to the employment of any agent, provided it is shown that it can be skilfully used with entire safety. But there are other objections to the intra-uterine stem-pessary. In the dissecting-room at the University of Pennsylvania he had endeavored to introduce the instrument in several cases of marked flexion of the uterus after death, and found it to be impossible: he believed that in these patients even the most skilful operator would have failed to introduce it during life. One of the chief objections is that this hard instrument is intended to be allowed to remain in the interior of so delicate an organ as the uterus; indeed, its introduction has been followed by great harm, and even by death. This is allowed even by its advocates. They say that it should be used only in extreme cases; and the speaker was pleased with the caution that the lecturer had impressed upon his hearers when speaking of this point. The recommendation expressed was particularly in regard to flexions; but there is great diversity of opinion among gynæcologists as to the methods to be adopted. The opinion of the speaker's father, and of Dr. Emmet and others, is that flexions are not always followed by important results; there may be even a considerable degree of flexion without much discomfort. The trouble is that there is always present more or less uterine congestion, as was pointed out by the late Dr. H. L. Hodge. Flexion becomes of more importance when complicated with version; but these are just the cases which the lever-pessary is especially designed to meet. Take a case of flexion and retroversion: place the woman in Sims's position; replace the uterus either with the finger or the sound or the finger and the sound; lift the perineum; allow the air to enter and distend the vagina, and the fundus uteri recedes into the abdominal cavity. Now introduce a lever-pessary, and the womb does not again come down. He wished to make this point. As regards flexions, many of us find we can relieve them without the intra-uterine stem: therefore, why use an instrument which may be followed by dangerous results? Again, in retroflexion, why use the stem-pessary, when the condition can be reduced by a simple manœuvre and prevented from returning by a lever-pessary?

The lecturer had also spoken of the successful treatment of a hypertrophied and flabby uterus by the stem and the daily use of hot-water injections, but the speaker had obtained the same benefit from the hot-water injections without the pessary. As regards amenorrhœa, he believed that constitutional measures will often succeed, and a small flow is not increased by any means at our command. The stem must act as a local agent, and it is this consideration which stimulated Simpson to devise his intra-uterine stem, made up of two metals, as already described. If the courses are scanty in an ordinary case, the speaker would not recommend an intra-uterine stem; but if he finds that the case does not yield to ordinary treatment, he does not hesitate to use it.

Dr. O'Hara said that the instrument evidently was capable of causing considerable irritation, and even worse, and believed that the indications for its use should be very strictly defined.

Dr. MacFerran called attention to the fact that the problem is not simply to reduce a flexion of the uterus, but requires us to search for the cause of the original deviation, and, if still existing, to remove or counteract it. He believed that the tendency was to pay too great attention to the uterus, which in itself is a delicate organ, and to overlook or ignore the original causes of the condition.

Dr. W. H. Taylor said that the incautious introduction of a stem-pessary might produce an abortion; and he inquired whether it might not effectually prevent conception if worn continuously.

Dr. W. R. D. Blackwood had used the intra-uterine stem in two cases of retroflexion, and permanent relief followed. In regard to the fear of producing an abortion, of course the same precautions should be taken before introducing the stem into the cervix as in the case of the uterine sound; and this objection is disposed of by the fact that the sound is invariably used first.

Dr. Baldwin inquired whether any cases of conception had occurred while wearing the instrument in the practice of the lecturer.

Dr. A. H. Smith replied that he had no personal knowledge of such a case, although two cases of conception occurring during the presence of the intra-uterine stem had been reported to him by Dr. Goodell, one of the cases carrying the child to full term, the pessary having been early removed as soon as pregnancy had been suspected.

He agreed with the gentlemen who had spoken previously, that the intra-uterine stem required caution and should not be indiscriminately employed, the rule being that this expedient should not be adopted when any simpler treatment would answer. Following the same rule, he would not even introduce a vaginal pessary when it was not necessary.

In reply to Dr. Hodge, he said that he made it an invariable rule previously to introduce the sound, in order to measure the depth of the uterus, and where the sound can go the stem may follow. This would dispose of those cases mentioned where it was impossible to introduce the stem after death. He (Dr. Smith) would lay down the rule that the instrument should not be used in any case where the uterine canal could not be straightened by the sound. The method of using the intra-uterine stem and the cautions about its introduction are very fully stated in the paper. The speaker was happy to respond to the remarks of Dr. Hodge in reference to the influence of posture upon a retroverted uterus, and agreed with him to the extent that as long as the patient remains in the posture on the knees and elbows the uterus will not come down; but that it will stay there, as many suppose, is not necessarily the case. If we introduce a lever-pessary in that position, when the fundus of the uterus is in the neighborhood of the umbilicus, it will be found that an instrument that is readily introduced and performs its functions perfectly while in that position cannot be tolerated for a moment when the patient resumes the upright posture, when the weight of the viscera bears down upon it. The fundus of the uterus will often be found to creep down behind over the posterior bar of the pessary, while the anterior bar of the lever will be carried up over the pubes. He had seen this occur time after time. In such patients he has had to temporize and use other measures to reduce the size of the uterus before allowing them to walk.

He would acknowledge freely that some of these cases do not bear the intra-uterine stem; but he considered them as exceptions. As the rule, the irritability is not so great in these old cases, in which the uterus has assumed a version or retroversion, as in ordinary cases of flexion. As to the amount of this tolerance, we cannot formulate a rule; it is greater in some than in others, but there are very few cases in which this flexible stem, if the uterus bears its introduction, could not remain for a considerable length of time, as it occupies no considerable space. He had rarely met with a case in which it would not pass readily into the canal. When irritation occurs, it is never in the cervical canal, but always in the uterine cavity proper; he had, therefore, never found it necessary to adopt the recommendation of Lawson Tait, to cauterize the cervical canal prior to introducing the stem. The amount of irritation caused by this hard-rubber instrument must be very slight, and he was at a loss to understand Dr. Emmet's opposition, which had been spoken of, but it is very evident, from what he says in his writings, that he has never used it, and, therefore, can scarcely give a fair estimate of its value. Dr. Emmet says that you might as well expect to straighten out a chordee with a steel sound as to treat a flexed uterus with the intra-uterine stem; but there is no parallelism between the two: one is temporary, the other is permanent and organic.

The question has been raised as to the permanency of the result. The clinical history of cases was purposely omitted from the paper on account of its length, but he could state, from his own experience, that in the majority of cases the canal continues straight. In many cases pregnancy has occurred after removal of the stem. He was unable to see any force in Dr. Taylor's objection, since the sound would always be introduced prior to the stem, and no attentive practitioner would explore the cavity of the womb without first satisfying himself of the non-existence of pregnancy; and there are so many other methods of producing abortion that this would scarcely be resorted to.

In regard to mortality, he had not seen any case where death had resulted directly from this instrument; but he had seen one case where perimetritis existed, but he believed that the stem had nothing to do with the result, as he afterwards discovered that all the symptoms—fever, etc.—had existed prior to the introduction of the pessary. He had in some cases been called upon to remove the instrument, but, as he had already stated, he only recommended its use where every other means have failed, and under the cautions specified in his paper.

In regard to conception during the retention of the pessary, he could not positively say that it has ever occurred, but he has now a patient who has missed one period. In such cases the pessary is removed, as it would inevitably produce abortion. Dr. Goodell has reported a case where a Chambers's double stem-pessary was used and removed at the end of the second month: the patient, however, aborted a month later. He believed that Dr. Harlow had mentioned two cases where pregnancy had occurred. For his own part, he did not see why conception should not occur. The stem occupies so little space, and is so flexible, that it would favor rather than prevent the spermatic fluid from entering the uterus.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 26, 1880.

THE PRESIDENT, DR. S. W. GROSS, in the chair.

Carcinoma of the stomach. Presented by DR. MORRIS LONGSTRETH.

I AM indebted to Dr. Thomas George Morton for the specimen and the history of the following case:

The patient was an Israelite, æt. 56, had long been engaged in a manufacturing business, and had always enjoyed good health. He consulted Dr. Morton on April 22, 1879, on account of certain vague symptoms, which perhaps can be best summarized by saying that the patient was not in his usual good health, and that his digestion was poor. The patient passed a very large amount of urine daily, and an examination showed its specific gravity to be 1033. Several careful tests with Fehling's solution for sugar resulted in an uncertain reaction. The fermentation test, however, showed a marked diminution of specific gravity of the urine, with the development of carbonic acid gas after the completion of the process. The diagnosis was made at first of diabetes mellitus, the irritability of the stomach being due to this cause. About a month later the patient began to reject his food at irregular periods. The vomiting usually did not occur until a number of hours after the reception of the food into the stomach; the patient would frequently eat his dinner and supper and not vomit until the following morning. By the beginning of June the increased frequency of the vomiting, together with a change in the general aspect of the patient, indicated that the patient was suffering from some organic disease of the stomach. The gastric symptoms were confined to a feeling of distress and the vomiting; there was no pain, no sense of fulness or hardness on palpation of the epigastrium, and no vomiting of blood and no bloody stools occurred. During June and July Dr. Morton did not see the patient, being in Europe during this time, but on his return, in August, he found the patient vomiting much more frequently and regularly after taking food. At this time a tumor could readily be felt in the epigastrium; the patient was greatly emaciated and presented a markedly cachectic appearance. It was now no longer doubtful that the illness was due to malignant disease of the stomach. The gastric distress, constantly present, remained the same, the inability to retain food greatly increased, and the emaciation steadily progressed, and with it the deepening of the cachectic appearance. From September until the occurrence of death, on December 30, 1879, all attempts at effective nourishing by the mouth had to be abandoned, and resort was made to nutritive rectal injection. This therapeutic resort was regularly carried out thrice daily. The nourishment consisted usually of an egg beaten up with a small portion of brandy and milk; the injections were well borne by the rectum, and the hard, dry fæcal mass was voided regularly every day. During all the latter period of life the only material given by the mouth was a little champagne. Late in life dropsical swelling of the legs and abdomen came on, but the emaciation of the body towards the last became extreme in the highest degree, and death resulted from inanition, without further development of symptoms in connection with the stomach. The glycosuric condition of the urine remained as first discovered for some time, but it gradually diminished, and finally disappeared before death. In connection with this symptom I wish to call attention to the involvement of the pancreas in the malignant disease.

The specimen shows a mass composed of the spleen, the stomach, a portion of the liver, with the gall-bladder, and the pancreas. The spleen is firmly attached on the posterior surface of the cardiac extremity. It is much reduced in size, its consistence is firm, and its capsule wrinkled, but, upon section, its tissue appears normal. The pancreas closely adjoins the spleen, and is firmly attached high up on the posterior surface of the stomach. At the lesser curvature of the stomach the liver is firmly attached by a mass of fibrous tissue containing greatly enlarged lymphatic glands. The gall-bladder, which appears about normal size, overhangs the duodenum, just below the pylorus. The stomach, which can hardly be recognized as such, either from its shape or texture, looks like a thick-walled tube which is sacculated at one or two places. Its extreme length, measured in a curved line, is eight inches; its calibre, about that of the undistended transverse colon. Its walls are greatly thickened, measuring half an inch at the pylorus, and about one-quarter of an inch at the middle portion of the greater curvature. The tissue is as firm and rigid as the stoutest sole-leather, and the glands on both its curvatures are greatly enlarged and softened. The peritoneal coat shows numerous very small nodular elevations, and the general surface is somewhat roughened by inflammatory lymph. The muscular coat of the œsophagus at its entrance is very considerably thickened. Its mucous membrane is greatly thickened, tightly adherent by submucous connective tissue, and is thrown up into very prominent longitudinal folds.

The mucous lining of the stomach seems to have entirely disappeared, except at a small portion at the cardiac extremity.

The transverse section of the wall of the stomach shows the peritoneal coat to be greatly thickened; the muscular coat to be infiltrated with new material, which is seen to be traversed by bands of white fibrous tissue. At all portions of the transverse section of the wall it can be distinctly seen that the ulceration has not extended through the submucous connective tissue, and that the bands of fibrous tissue traversing the infiltrated muscular layer run from the submucous tissue to the peritoneal coat. The mucous-membrane surface of the stomach is everywhere roughened and presents a granular surface.

At some portions, especially at the posterior surface, it is evident that the ulceration has extended into the muscular layer.

A small portion of the liver, attached to the stomach, presents one or two small bean-sized nodules of whitish color, which appear as infiltrations into the fatty-looking liver tissue. One or two large nodules were found in other portions of the liver. The tail of the pancreas presents a large, rounded, nodular mass, which, on section, shows several white, softened, rounded masses. The other portion of the pancreas, on section, shows almost none of the characteristic appearance of the organ; the tissue is pale, and the fibrous tissue is greatly increased, and its ducts appear to be dilated. The head of the organ is involved in a mass of inflammatory lymph, in which are numerous cancerous nodules, perhaps lymphatic glands, perhaps nodules in the tissue of the organ itself.

Just beyond the pylorus, the small portion of duodenum attached to the specimen shows very marked changes of its mucous membrane, with some ulceration. Just within the pylorus the ulceration is very deep, and has removed nearly the whole of the infiltrated wall.

Report of the Committee on Morbid Growths.—"A microscopical examination of a thin section of the stomach shows the new formation to consist of somewhat large alveoli containing large epithelial cells. The fibrous tissue constituting the alveolar walls is relatively small in amount. The neoplasm is an encephaloid carcinoma.

"March 25, 1880."

Chronic gastritis, with dysentery, etc. Presented by Dr. MORRIS LONGSTRETH.

The patient, Wm. H. C., painter by trade, was admitted to the Pennsylvania Hospital, August 9, 1877. He had contracted syphilis three years previous, and the primary lesion was followed by secondary manifestations; of this disease he appeared to be well, and the illness from which he suffered on admission to the hospital was not connected with its results. He appears to have suffered considerably from diarrhœa at various times; he had been in the war of the rebellion and in the swamps of the Chickahominy (but had never had malaria); he had dysentery while in the army in 1864. About three years before admission he was caught between a wagon and a train of cars, and received a contusion of the abdomen, which confined him to bed for six weeks. Two years ago he had an attack of fever, while in New Orleans, characterized by pain in his body and by delirium; the illness lasted about four weeks, but was not accompanied by diarhœa. Since then he has never felt quite well, and three months subsequently he noticed that his skin was sallow, and he felt dull and drowsy. Six weeks before admission he was attacked by diarrhœa, without any known cause, and shortly after this his legs began to swell.

On admission he appeared emaciated, of a dirty, sallow complexion, but the eyes did not seem especially discolored. He was having six or seven passages daily, loose in character, but not watery, slimy, or bloody, and there was no tenesmus, but occasional cramps in the abdomen. Tongue not coated, but pale and smooth. The splenic dulness did not extend to the margin of ribs. The liver was slightly increased in size. The gums were pale, but not spongy. The urine was normal. His general condition remained about the same for several months; generally confined to bed. The diarrhœa at times improved, and then again relapsed. In the latter part of November, 1877, the diarrhœa had become pretty constant and exhausting, and continued in spite of treatment and regulated diet. Towards the latter part of the time his appetite, which had been pretty good, failed. There was no nausea or vomiting, but he occasionally complained of obscure epigastric soreness, and there was a feeling of obscure resistance in the epigastric region, but the position did not correspond to the locality of his sense of soreness; there was no dulness on percussion over the abdomen, and there was no complaint of positive pain.

Post-mortem examination, by Dr. Longstreth.—Rigor mortis moderate; emaciation extreme; œdema of lower extremities.

Cavities.—The *abdomen* contained a considerable amount of serum; there was no evidence of recent inflammation. The omentum was rolled up over the stomach, and was tightly adherent.

Both *pleural* sacs showed some old fibrous adhesions, and the cavities contained considerable clouded serum, with clots of fibrin floating in it. No evidences of inflammatory action.

The *pericardium* was normal.

Heart.—Right side relaxed, but contained only a small amount of fluid blood and a few small clots. Left ventricle firmly contracted and empty. The organ was reduced in size; its orifices, valves, and cavities showed nothing abnormal. Its tissue was moderately firm and evidently atrophied, but not fatty. Weight, seven ounces avoirdupois.

Lungs.—These organs showed nothing especial to note.

Spleen.—It was of small size; its capsule was wrinkled and pale; consistence flabby, and its tissue anæmic and moderately resistant. Weight, five ounces avoirdupois.

Kidneys.—Both were small, pale, moderately firm, and slightly irregular in outline, but presented no special morbid change. Weight, four and a half ounces, left; four ounces, right.

The *liver* was small, regular in outline, pale and anæmic; its capsule was roughened by a few fibrous adhesions; its tissue was evidently atrophied, giving the appearance of a relatively greater amount of fibrous tissue, but there were no indurative or cirrhotic changes. Weight, two and a half pounds.

The stomach presented the appearance of a rigid, thickened wall-sac, having a length of six and a half inches; it is two and a half inches wide at the cardiac extremity, and one and a half inches wide at the pyloric end. Its peritoneal surface is rough, especially on the anterior surface, along the greater curvature where the rolled-up omentum was attached. At the posterior part of the cardiac extremity the organ was so firmly adherent to the part behind that its wall was torn in removing it. The only portion of the stomach that has a normal feeling when handled is a small portion just at the pylorus.

On opening the stomach its mucous membrane presented a condition of ulceration throughout nearly its whole extent, and its walls throughout their whole circuit were enormously thickened. At the œsophageal opening the muscular tunic was greatly thickened, but the mucous membrane was smooth and normal-appearing. At all other portions, excepting near the pylorus, the whole internal surface presented a rough, somewhat shaggy aspect; at parts the ulceration had extended in depth to the muscular layer, the fibres of which were distinctly visible; at other parts the surface was covered with shreds of the mucous or submucous coats. The edges of the ulceration, both towards the œsophageal opening and the pyloric extremity, presented thickened, everted borders composed of the epithelial layers.

A small portion of the mucous-membrane surface at the pylorus showed the rugæ as in a healthy stomach, but its epithelial covering appeared to be to a considerable extent removed: however, the surface was smooth, and there was no appearance of ulceration.

A vertical section of the stomach-walls showed enormous thickening of all its coats, measuring in places half an inch. The thickening especially affected the muscular tunic, but there was great increase of the outer coat, and also of the mucous and submucous layers, except, of course, where the ulceration had destroyed the inner lining. From the fibrous and peritoneal coat, bands of connective tissue could be seen, on the surface of a section, dipping down and passing in between the bundles of muscular fibres. So great was the increase of the muscular tissue that there appeared to be many layers of muscles, instead of the normal number.

The *lymphatic glands* along the lesser curvature of the stomach were found enlarged and swollen, homogeneous on section, but not softened.

The *duodenum* directly without the pylorus appeared nearly normal, but beyond this its walls were thickened; its peritoneal coat was roughened by fibrous inflammatory tissue, and its mucous membrane in a state of catarrhal inflammation, but not ulcerated.

The *small intestine* showed throughout its length the results of a former morbid condition of its mucous membrane, especially thickening of its walls.

The *large intestine* was very greatly thickened and in places contracted. Its mucous membrane showed evidences of old and deep ulceration; but in most places it was healing, and presented a smooth, board-like aspect.

The *mesenteric glands* were found much enlarged.

The *gall-bladder* contained but little bile, which was of a very pale color and contained considerable mucus.

Microscopic Examination of the Stomach-Wall.—The changes in the structural elements of the tissue are so great that it requires considerable study to identify them and to distinguish the several layers.

Commencing at the outer surface, the peritoneum is found to be covered by a *layer of fibrous material* varying in thickness at different parts. This material presents a rough, shaggy surface; it is well organized, and shows numerous very small capillary vessels passing between its fibres; at parts there are seen very many indistinct cellular elements. It is firmly attached to the peritoneum, on which it is placed.

The subperitoneal tissue, which can be distinguished by the numerous vessels, seen mostly in cross-section, in it, is very much thickened. Its fibres are firm and coarse, and closely matted together. The vessels in this part are larger than usual, more numerous, and their walls thickened, and large lymphatic vessels are to be seen in it containing granular cells or nuclei.

Next to this coat comes the muscular tissue, in which can be seen layer after layer of alternate bands of muscular fibres, presenting first the ends of their cells cut in cross-section and then running parallel to the length of the fibres; again in other parts the muscular bands are seen running in oblique directions. The bands of muscular fibres are often widely separated by layers of connective tissue, and occasionally this connective tissue is visible passing in a perpendicular direction through the muscular bands. That it is not only an increase of the amount of muscular tissue, but also a true hypertrophy of this tissue, is evidenced by the multiplication by division of nuclei of the muscular fibres, which can be seen occasionally in some parts of the section where these fibres have been cut transversely. Quite a number of vessels can be seen, some cut transversely, some longitudinally, running in various directions in the muscular-fibre layer. These vessels are frequently seen surrounded by clusters of small cells, which stain deeply, and are also accompanied by or have in their neighborhood lymphatic vessels, filled with brightly-stained cells of the same character.

The limitations of the muscular and submucous layers are well marked in nearly all parts of the sections by an expanse of considerable breadth of much coarser fibrous tissue.

The submucous layer is clearly to be recognized by the numerous large-lumened, thick-walled arterioles seen in it. It is composed of coarse-fibred connective tissue, which twists and sweeps in bands of varying width in every direction. It presents in very many places heaps and aggregations of small cells, which are perhaps more numerous around the vessels than at other portions; frequently no vessels can be seen in the section near them, and they are found placed in clefts surrounded by firm bands of fibres. The lower surface of this layer, next the muscular coat, shows a pretty even, level surface; but its upper surface, towards the mucosa, is seen thrown up in folds like the normal rugæ of the stomach. Near the upper surface the cell-aggregations are more numerous and stain more deeply than in the lower depths of its tissue.

The division between the latter layer and the mucosa is made by a broad layer of basement membrane. This basement membrane at its broadest part occupies three-fourths the width of the field of view of a $\frac{1}{4}$ inch objective with the B eye-piece, tube out, magnifying 350 diameters. Examined under low power (50 ×), this layer appears as a band, less well stained than the subjacent submucosa, and strikingly in contrast in this respect to the comparatively brilliant-colored overlying mucosa. Under the high power the basement membrane is but poorly differentiated as to its constituents from the submucous tissue, and in places seems to pass over directly into it. It is, however, everywhere distinctly marked, either by differences of appearance or by the heaping up of small round cells just below its under boundary. The basement membrane appears at most places to be made up in the following manner. On the surface of the submucosa is a thin band of fibres running parallel to the surface, and from this pass up fibres, which either end in spiral fibres, or, running vertically upwards, partition off the basement membrane into compartments; these compartments form two rows, bounded on two sides by the straight fibres, running parallel to the length of the basement, and on the other two sides by fibres running transversely and given off laterally from the straight fibres. These compartments generally seem to be filled with fibres derived, as already stated, from the limiting bands of the basement membrane, which within the compartments twist in spiral figures towards the centre; sometimes the fibres appear arranged concentrically. Within the compartments are seen small cells or nuclei, apparently having a direct connection or attachment to the fibres which fill these spaces.

The basement membrane, therefore, viewed as a whole, is composed of three bands of straight fibres,—an exterior, a middle, and an interior (towards the mucosa) set. Between these bands are the compartments (so called) which are divided by transverse bands.

The continuity of the basement membrane is broken at several places by clefts, through which pass tube-like structures, the nature of which it is difficult to determine with certainty. Some of them are, I think, capillaries, —this view is rendered probable from their close relation to vessels situated in the submucosa; others resemble lymphatics; and one is apparently a tubular gland. (In all the section examined, in which the appearance described is seen, these structures show only portions of their whole extent, either of their length or of their calibre, so that their exact nature must be left undetermined.)

At many parts of the mucous-membrane surface the effects of ulceration are visible, and at the other portions, which are maintained, the surface is much changed by post-mortem action. The thickness of the mucosa is evidently increased. At the deeper portions of this layer only can the structure and condition of the parts be well studied. In some portions the tubular structure is well maintained, although the cells are highly granular; at others, whilst the outlines of the tubes can be made out, the cells are seen to be greatly degenerated, and for the most part loosened from their connection with the basement membranes of the tubules, and many of the tubules are stuffed with granular débris. Many tubules also are dilated, some still maintaining their epithelial lining, whilst others, which are dilated into cysts, have as their limitary membrane only the thickened basement membrane of the tubule. The intertubular connective tissue is everywhere increased, mostly presenting a coarse-fibred condition, but in others very delicate spindle-shaped cells are visible. In a few places the terminations of the tubules at the basement membrane of the mucosa show distinct budding dilatations, like the arrangement of a racemose gland; in one instance three bud-like projections were seen from one tubule. In general the condition of the mucous membrane is that due to a chronic catarrhal inflammation, followed by ulceration.

Remarks.—This case is a remarkable one from the very great alterations found in the stomach,—remarkable from the comparatively slight evidences of disease of this organ witnessed during life. From the history of the case, it is not very easy to determine with accuracy the beginning of the process which produced the morbid appearances found after death. The life-history of the case, as given by the man, is probably not a full one, as so commonly happens with patients of his class. It is clear that for a long time previous to his death he had been subject to disease of the digestive apparatus, which had at times culminated in severe diarrhœa or dysentery. His army-life, both during the war and since then, would certainly have acted as a predisposing cause. The clinical history shows, and the post-mortem examination confirms the fact, that he was not subject to several of the predisposing causes of chronic gastritis. He did not have lung- or heart-disease; he was not a drunkard; there was no evidence of malarial poisoning; and there was no cirrhotic condition of his liver.

There are three factors in the production of the morbid condition which remain for consideration. Three years before admission to the hospital he received a contusion of the abdomen, which was certainly of a severe character, as the history shows. There is no evidence that this injury directly affected the stomach; the position of the organ, to a greater or less degree, shields it from direct violence, except from blows aimed particularly towards its position. The patient seems to have recovered from the accident completely, and subsequently, as well as at the time, the violence does not seem to have produced gastric symptoms. The illness from which he suffered two years previous to admission, while in New Orleans, is of so uncertain a character, and the details of his condition at the time are so meagre, that no positive connection can be shown between its nature and the disease which produced death.

That the patient had had dysentery, and subsequently was affected with diarrhœa, seem to me to be the leading features in the case. Whether the dysentery and diarrhœa were symptomatic of long-existing and slowly-increasing changes in the mucous membrane of the whole alimentary canal the history does not indicate, or whether the attack of dysentery was the initial symptom of the disease. The question of lead-poisoning being the origin of the disease can, I think, be passed by, as such a theory is entirely unsupported by evidence.

We are compelled, I think, to conclude that the morbid condition was the result of disease commencing in the mucous membrane of the alimentary canal; and it remains to be discussed whether the trouble commenced in the intestine (the colon) and was propagated upwards, or whether the beginning of the disease was in the stomach, and that from it the intestinal tract became involved also.

I am not inclined to accept the first one of these views, viz., the propagation of the inflammation upwards from the bowel to the stomach, although, as is known, an involvement of the gastric mucous membrane does result from severe chronic dysentery, not, however, without producing in the first place grave disease of the liver. The simple propagation of a catarrhal inflammation *upwards* from one extremity of the alimentary canal to the other, and the production of such alterations of the stomach as are found in this case, are unknown.

The supposition that the disease began as a catarrhal affection of the gastric mucous membrane and extended downwards, perhaps complicated with an intercurrent attack of dysentery and also by the injury received by the abdominal viscera, satisfies more completely the state of organs found at the autopsy, and is entirely consistent with the clinical history as given by the patient.

The disease commenced most probably in a subacute gastritis, and passed under the head of dyspepsia, of which the patient took little or no notice; we have no account of any acute attack, unless his illness in New Orleans be of this nature. After the changes of the gastric mucous membrane were once established, the disease must necessarily have become a progressive one, and would be aggravated by successive attacks of dysentery and diarrhœa, and would also have been strongly provocative of such attacks.

That a stomach should be so altered in its anatomical structure, and necessarily also in its functional action, is, I think, to be accounted for naturally by one of the most prominent changes in it as seen by the microscope, viz., the very great hypertrophy of its muscular fibres. Ordinarily in chronic gastritis, the distress from which patients suffer is due in a large degree to the food remaining in the stomach undigested, and, by decomposition and fermentation, producing gases and acids of a nature highly irritating to the diseased mucous membrane. In a stomach such as found in this patient, the enormously hypertrophied muscular wall would, by contraction, rapidly hurry the food into the intestine, not only before it had digested, but before decomposition took place: hence the stomach would be relieved of the cause of usually occurring pain and distress. But, while this condition of the muscular wall of the stomach tended to relieve that organ, the same condition would necessarily act unfortunately for the intestine. No more common source of intestinal catarrh exists, or one that acts with more energy, than the presence of undigested food in contact with the intestinal mucous membrane; and to this condition of the stomach we must look for the explanation of anatomical changes seen in the bowel.

(To be continued.)

GLEANINGS FROM EXCHANGES.

PILOCARPIN AS AN ANTIDOTE TO ATROPIN.—Dr. Purjesz, of Buda-Pest, relates in the *Centralbl. für Prakt. Augenheilk.* the case of a patient, aged 19, who took, for medical purpose, a watery solution of nearly two grains and a half of sulphate of atropin. When the patient was seen by him, an hour afterwards, the symptoms of poisoning were very severe. He at once administered, by subcutaneous injection, muriate of pilocarpin in doses of 0.4 grain every five or ten minutes; the quantity given amounted in all to 6.4 grains. The result was remarkable: the toxic symptoms gradually receded, and at the end of three hours from the time of taking the atropia the patient had quite recovered. Even the dilatation of the pupils, which had taken place to the greatest extent, had completely passed off.

USTILAGO MAIDIS.—From *ustilago maidis* I have obtained very positive results. It is superior to ergot of rye in labor. It does not cause nausea, and gives better satisfaction in various ways. It seems to be more certain in its effects towards labor, and renders what otherwise would be a tedious and distressing case a natural and easy one. It stops hemorrhage quicker than its rival; but in making use of it I would advise practitioners to be alive in regard to the secundines, for they follow with expedition, in which case I also find that the thoroughness of the contractions makes it safer for the patient. I have used it in one case (this week) of expulsion of sarcomatous uterine tumor, and with success and satisfaction.—J. I. BROWN, M.D., in *The Medical Summary.*

PRODUCTION AND INCREASE OF SECRETION OF MILK BY THE RICINUS COMMUNIS.—MM. Boucher and Fonssagrives have established the efficaciousness of this method of increasing or re-establishing the secretion of milk. It is used thus. A handful of the leaves of the Ricinus communis are boiled in a litre of water; the breasts are bathed with this decoction for fifteen or twenty minutes; there is then applied to the nipples a poultice made with a part of the same leaves, and they are left on till they have become dry. The result is obtained after a few hours; but if the secretion is very tardy, we may add to this the employment of fumigations of the boiled leaves directed to the genital organs.

MISCELLANY.

American Health Primers.—Since our last notice three more of the little volumes of this series have appeared: "Brain-Work and Over-Work," by Dr. H. C. Wood, which bears the marks of haste, and would be improved by careful revision; "Our Homes," by Dr. Henry Hartshorne, which is exactly what one would have expected from its well-known author; and "Sea-Air and Sea-Bathing," by Dr. John H. Packard, an excellent little manual for the sea-side visitor.

The Rev. J. G. Wood, the well-known writer on entomology, is responsible for the statement that in some parts of Brazil ants are used for sewing up wounds. He says,—

"They simply pinch the edges of the wound together and hold the ant to it. The creature immediately bites at the obstacle, making its jaws meet. The native surgeon pulls away the body, leaving the head still adhering. Seven or eight ants' heads are sometimes employed for a single wound."

"It seems almost incredible," says *The Practitioner*, in a review of Dr. Tyson's work on "The Cell Doctrine," "that the first recognition of the cell as a physiological unit should have been made by two men still alive,—Professors Schleiden and Schwann,—for since their memorable discovery the cell doctrine has received such wide development as seems to demand a much longer period than a single lifetime."

The fourth edition of Dr. George Wilson's "Hand-Book of Hygiene" has just been published by Lindsay & Blakiston, of this city. We note its appearance with pleasure, as the token of deserved success.

Dr. Sharpey, the physiologist, best known as the joint author with Dr. Quain of a very fine illustrated work on anatomy, has just died at the age of seventy-eight.

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NOTES AND QUERIES.

ERRATUM.

In Dr. Prentiss's paper in the *Times* for April 24, read 0.03 *gramme* instead of *grain* as the proper strength of the opium suppository.

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OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM APRIL 18 TO MAY 1, 1880.

Moore, John, Major and Surgeon.—His leave of absence granted him July 24, 1879, from A. G. O., extended two months. S. O. 90, A. G. O., April 23, 1880.

Heger, A., Major and Surgeon.—Assigned to duty as Post-Surgeon at Fort Clark, Texas. S. O. 78, Department of Texas, April 24, 1880.

Goddard, C. E., Major and Surgeon.—When relieved by Assistant-Surgeon Waters, to comply with S. O. 74, c. s., A. G. O., in his case. S. O. 78, c. s., Department of Texas.

Waters, W. E., Captain and Assistant-Surgeon.—When relieved by Surgeon Heger, to report to the Commanding Officer, Fort McKavett, Texas, for duty as Post-Surgeon, relieving Surgeon C. E. Goddard. S. O. 78, c. s., Department of Texas.

Meacham, F., Captain and Assistant-Surgeon.—So much of Par. 1, S. O. 74, c. s., A. G. O., as relates to him is revoked. S. O. 87, A. G. O., April 20, 1880.

Hall, J. D., Captain and Assistant-Surgeon.—Assigned to duty as Post-Surgeon at Fort Randall, D. T. S. O. 42, Department of Dakota, April 13, 1880.

Winne, C. K., Captain and Assistant-Surgeon.—When relieved by Assistant-Surgeon Corbusier, to comply with Par. 1, S. O. 74, c. s., A. G. O. S. O. 32, Department of the Platte, April 13, 1880.

Ainsworth, F. C., Captain and Assistant-Surgeon.—The operation of so much of Par. 1, S. O. 74, c. s., A. G. O., as relates to him is suspended until September 1, 1880. S. O. 83, A. G. O., April 22, 1880.

Merrill, J. C., First-Lieutenant and Assistant-Surgeon.—Relieved from duty at Fort Shaw, M. T., and assigned to duty as Post-Surgeon at Fort Custer, M. T., relieving Assistant-Surgeon L. S. Tesson, to enable him to comply with S. O. 74, c. s., A. G. O. S. O. 42, c. s., Department of Dakota.

Shannon, W. C., First-Lieutenant and Assistant-Surgeon.—The operation of so much of Par. 1, S. O. 74, c. s., A. G. O., as relates to him is suspended until October 1, 1880. S. O. 87, A. G. O., April 20, 1880.

Corbusier, W. H., First-Lieutenant and Assistant-Surgeon.—Relieved from duty at Camp Sheridan, and assigned to duty at Fort Washakie, Wyo. T. S. O. 32, c. s., Department of the Platte.

Headquarters, Department of Dakota,
St. Paul, Minn., March 18, 1880.

General Orders,
No. 8.

It is with great sorrow that the Department Commander announces to the officers and men serving under his command the death of the Medical Director of the Department, Surgeon William J. Sloan, Colonel and Brevet Brigadier-General in the army.

Surgeon Sloan entered the service as an Assistant-Surgeon on the 12th day of July, 1837. He became a Surgeon, with the rank of Major, on the 20th of December, 1855, and was promoted to be Lieutenant-Colonel, June 26, 1876; to be Colonel, April 28, 1877. On the 13th of March, 1865, he received the Brevet of Colonel, "for faithful and meritorious services during the war," and on September 28, 1866, the Brevet of Brigadier-General, "for meritorious and distinguished service at several military posts in New York Harbor, where cholera prevailed."

During a period of more than forty-two years Surgeon Sloan rendered faithful service in nearly every part of the country, from the Atlantic coast to New Mexico, from Florida to Minnesota; and in his later years was successively the Medical Director of the Departments of the Northwest, of the East, of the South, and of Dakota, closing his long and most honorable career while in the full performance of the duties of that office here.

It would be impossible, within the limits of a General Order, to do justice to the services and to the professional ability of an officer such as Surgeon Sloan was. Equally difficult would it be to do justice to his character as a man. To the highest conception of the demands of duty and the loftiest sense of honor he united very remarkable simplicity and directness of character, and a most kindly and gentle nature. To great clearness and force of intellect, and thorough mastery of his profession, he added administrative and executive ability such as is rarely equalled. During the long and distressing illness which preceded his death his mind retained its accustomed vigor, and, although struggling with disease, he continued till the day preceding his dissolution to discharge every duty which devolved upon him. He lived without an enemy. He died beloved and lamented by all who knew him.

In respect for his memory, all officers on duty at the Headquarters of this Department, and all officers of the Medical Corps serving in the Department, will wear the usual badge of mourning for the period of thirty days.

By Command of Brigadier-General Terry:

George D. Ruggles,
Assistant-Adjutant-General.

Official:
Captain Eighteenth Infantry, A. D. C.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, MAY 22, 1880.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON PELVIC ABSCESS, CERVICAL STENOSIS, AND PROLAPSE OF THE OVARIES.

BY WM. GOODELL, M.D.,

Professor of Clinical Gynæcology in the University of Pennsylvania.

Reported by CHARLES W. DULLES, M.D., Surgical Registrar to the Hospital.

PELVIC ABSCESS.

GENTLEMEN,—The case now before us has been sent here from the country for diagnosis. It is a woman 33 years old, who has had four children, the youngest now two years old, and five miscarriages. Now, this latter is the point upon which I shall lay great stress. She had last May, a year ago, evidences of pelvic inflammation, suppuration, and a discharge of purulent matter from the bowels. When I ask her quietly whether her miscarriages were "honest" (or natural), she tells me they were. She accounts for them by muscular efforts in lifting, and so forth. Her first child was still-born. She has had difficult labors, but never any instruments used to deliver her. I now inquire whether the discharges from the rectum are accompanied with pains like dysentery. She says they are. Why do I ask this question? Because if there be an opening into the bowel high up, the pus would probably pass away without attracting the patient's notice by pain, and perhaps be long unnoticed. If, on the contrary, an abscess is emptying itself low down near the sphincter ani, it would cause more or less tenesmic pain, and the pus would be tolerably pure. In this case, then, we may suppose the latter to be taking place. A rectal examination, which I am now making, does not give me any additional information on this point.

Now, when we come to the womb itself I shall make my examination very carefully. If a woman has had a pelvic abscess, you must go to work gently with her. It won't do to put a sound off-hand into the womb, for in this way it would be very easy to light up a new inflammation.

I find, with my finger, that this womb is firmly fixed in the pelvic cavity. If I attempt to move it I give the patient pain. She has had a pelvic cellulitis or a pelvic peritonitis, or—what is more likely—both. There has been plasma thrown out, which has sealed the womb fast in adhesions.

The normal relations of the womb are like those of a ship riding at anchor. The ship, though moored in place, swings to and fro with the shifting tides and currents, with a limited but a free motion. But by and by come hard weather and frost, and the ship becomes frozen and fixed. Just so the womb. Naturally it floats in the pelvis, moored by its ligaments, but moving freely with the various movements of surrounding parts. But by and by its frosty night comes, and it too becomes fixed in one position. This womb's frosty night was the inflammation we have been finding out about.

The fixedness of the womb is not exactly like that of ice, however, for if you could feel the effusion around this one you would find it to be more like that of tallow. You could indent it; it is not of a stony hardness.

In the present case the abscess seems to have come to a head last August, and begun to discharge at that time. By the rectum, I find the effusion to be principally in the broad ligaments.

I shall not pursue my investigations any further. I am satisfied. Now, what is to be done? I inquire again whether just before this began she was menstruating or miscarrying. She says the latter. When I ask if it was natural, she says the doctor caused it.

Now, gentlemen, having sent the woman out of the room, I am free to say I don't believe those miscarriages were honest. Now, I am very frank; I am thinking out loud. This crime of abortion is so shockingly prevalent in this country—in every country—that I cannot believe this woman has had five honest miscarriages. And when I am called to a case of pelvic peritonitis, not after natural labor, I generally think it is due to abortion—criminal abortion—or to preventive measures,—that is, measures taken to prevent conception, the most common of which are astringent vaginal injections immediately after coition. In the great majority of cases, pelvic peritonitis is due to these preventive measures, next in frequency it is caused by criminal abortion, and next, and much more rarely, by natural abortion. Sometimes, indeed, it is caused by catching cold while menstruating, or from a local chill. A woman wishes to go to a ball, and doesn't want to be sick while she is there, so she takes an injection of cold water to check the flow. Or the trouble is sometimes caused by the regurgitation of retained menstrual discharge in an anteflexed uterus, and in some cases of retroversion.

The symptoms are tenderness, chill, followed by high fever and great local sensitiveness; the knees are drawn up, as in all cases of peritonitis; the temperature 102°–103°, and the pulse never below 120. If you have these symptoms you may justly infer a pelvic peritonitis; but if in addition you find the vagina hot, the womb tender and, after a few days, hardened plasma round it, there can be no doubt what you have to deal with.

The treatment I like best consists of applying large poultices to the abdomen and giving ten-grain doses of quinine every four hours until cinchonism is established. To these I add the use of morphia to control pain. Sometimes a hypodermic of morphia will act wonderfully, and seem to cut the disease short. When the height of the disease is past, blisters to the abdomen often do much good. They should be about four inches by two or three. Then you may give tonics; but don't give iron. My experience is that iron tends to send blood to the pelvic organs; so I don't use it when congestion would be dangerous. I rather give the muriate of ammonia, which has an alterative action, in five- to ten-grain doses. I also give corrosive sublimate, in doses from one-twenty-fourth to one-twelfth of a grain, three times daily. It is well, too, to have some way to disguise the taste of the muriate of ammonia, for it is very disagreeable. I usually give it either as a compressed five-grain pill or mixed with extract of liquorice. You can combine equal parts of these in about a dessertspoonful of cinnamon-water, and the taste of the ammonia is very well hidden.

But I must hurry. The subject demands more time than I can now give it. In a few words, let me add, when a pelvic abscess points it is right to open it. It may point in the vagina, or the rectum, or the bladder, or above Poupart's ligament. If it points where you can find it, it is right to thrust your aspirator-needle in and let out the pus. If it opens spontaneously into the bladder or the rectum, the woman runs a good chance of having a fistula and a discharge year in and year out, perhaps for her whole life.

In cases that have passed the acute stage, rest in bed is very important, and the use of tonics. To those already mentioned iron can now be added. This is best given in the tincture of the chloride. Blisters would now be out of place. Patience and long-continued attention to hygienic conditions are of the utmost importance. There are cases in which, without irreverence, we may say what the great Arabian physician said, who, when asked why women, just nine months after conception, fall in labor, replied, "By the grace of God." Here the art of the physician seems to be of little avail, and nature to be the great healer.

STENOSIS OF CERVIX UTERI.

This woman, gentlemen, has been married seventeen years, and never conceived. Every month she has very severe dysmenorrhœa. I find, on examination, that the cervix is like that of most nulliparous women, firm and small, and with a small os. The cases are quite common where the troubles—sterility and dysmenorrhœa—for which this woman comes to us are caused simply by mechanical conditions. Sometimes we find a natural stenosis, sometimes an anteflexion. When a woman has never borne children, we usually find an anteflexion, which is only an exaggeration of the normal anteversion of virgins. When a woman has borne children, however, we usually find a retroversion or retroflexion. This is induced by subinvolution, the weight of the womb and the pressure of the bladder causing the former to topple over backward in the direction of least resistance. There are exceptions to this rule. Indeed, as I pass my finger in this vagina I find a feeling as if there were here a retroflexion; but this is one of those cases where the womb seems to lie in all directions. With the sound I find a sinistro-lateral flexion. The womb is a little more than two and a half inches long.

If our patient were not under ether, I should probably put in a pessary, but as it is I shall dilate the os forcibly. First, however, I shall take the curette and see if there are any vegetations of the endometrium; if so, we will at once get rid of them, and increase her chance of conception. I find none, or very few; so I will put in the dilator till the end touches the fundus of the womb, withdraw it half an inch, and expand the blades, so as to stretch open the canal.

I now send the patient out. The instrument will be left in place—as the ether is suspended—until she begins to squirm (that will be, perhaps, in fifteen minutes), when it will be removed.

PROLAPSE OF OVARIES AND RETROVERSION OF UTERUS.

This woman has had two miscarriages, one artificial. She began menstruating at eleven and a half years, was married at sixteen, in ten months had a miscarriage at five months, and, five years ago, a second at two months; has always had severe dysmenorrhœa, and since the last miscarriage worse than before. During the last year she menstruated only three times, and now she has metrorrhagia; she is hysterical, and has difficult micturition and defecation, with wandering pains in the abdominal and pelvic cavities.

Upon examination, I find a very tender spot on the right side of the uterus. It is a tumor, not hard, but elastic. It either contains fluid, is a cyst, or it is the ovary. To determine this I make gradual pressure upon it, and find I cause a pain just like that which is caused by a blow upon or squeezing the testicle. So I think it is the ovary. On further examination, I find the left ovary also is prolapsed and the womb retroverted.

Now, how shall this case be treated? Shall we put in a pessary? It would be ridiculous to do so when the womb is so sensitive; our patient could not bear it. The proper plan is to put the woman in bed, and give her some medicine to diminish the congestion of these parts. We can order Hunyadi János water or Rochelle salt in a large quantity of water to be taken every morning, to move the bowels two or three times a day. Leeches to the womb in such cases sometimes do good, and local scarifying, though the former are often very painful; scarification is better. We may also give twenty-grain doses of the bromide of sodium three or four times a day.

After the activity of the system has been somewhat reduced, we have certain remedies which act a great deal like specifics,—not that they are specifics, but they seem to be of very great service in such cases. We may use first the bichloride of mercury combined with the muriate of ammonia, as mentioned when I spoke of pelvic abscess. When these lose their effect, I use the chloride of gold and sodium, one-eighth of a grain t. d. I have five grains made into forty pills, and give one three times a day, and gradually increase the number at a dose until two or even three pills are taken thrice daily. Sometimes, too, I guard the dose with a little opium.

This woman, too, must learn and practise the "knee-breast" position. She must kneel upon the floor, with her knees ten or twelve inches apart, let her breast come down against it, while her head lies in her left hand; then with her right she must open the vagina; the weight of the viscera will then cause all the pelvic organs to tend to leave the pelvis, while air rushes in and fills the vagina. This is a very valuable aid to the restoration of displaced pelvic viscera. The woman may judge of the success of her attempt by the feeling and sound of the expelled air as it leaves her vagina when she rises.

ORIGINAL COMMUNICATIONS.

CLINICAL NOTES ON DUCHENNE'S DISEASE.

BY S. WEIR MITCHELL, M.D.

Read before the Philadelphia County Medical Society, March 10, 1880.

I INTENDED, this evening, only to have said something of the hygiene of Duchenne's disease, and to have shown certain forms of mechanical support which I have found useful in this or other maladies. When, however, I came to review my notes of cases, I found myself tempted to speak of a number of matters connected with this cruel malady. It is a desire to confine myself chiefly to points little discussed or in doubt, and to omit familiar knowledge, that will give to this paper a somewhat disconnected appearance.

It seems to me important that the mass of the profession should realize the inexorable fatality of posterior sclerosis. It is a conclusion from which we shrink in each individual case, and this has, I think, given rise to a good deal of false hope, which would be really of no moment did it not lead very often to consequences which are only to be deplored.

I believe, as I shall state by and by, that a good deal can be done for this disease; but nothing ever done for it has, in my experience, led to an absolute cure. Like others, I have certainly met with many examples of arrested development of the disease, or of temporary lessening of symptoms, or even of a notable loss of some of the symptoms which are most troublesome. Such cases are well known. I have elsewhere compared the progress of Duchenne's disease to that of a man who has an inevitable staircase to descend. He may linger or go back, but the descent is still to be taken, and the best he can hope for is to go down slowly and with long pauses and rare retrogressions.

These gains and these pauses are now a well-known part of the natural history of the disease. Their extent is, in some cases, curiously delusive, and may constitute such a delay as is nearly equivalent to a cure. Among my notes I find five cases in which there were remarkable pauses. In one twenty years elapsed without change; in the others periods of five to fifteen years went by without the patient seeming to lose or gain. In another case, which I shall speak of near the close of this paper, a yet longer time than any of these afforded went by without notable change. In other cases there is the yet more remarkable fact of certain gains without known cause.

In three of my cases, to take extreme examples, there was at one time such ataxia of motion in the arms as to make them useless, and in each of the three these limbs reacquired useful movement, while the whole case progressed slowly from bad to worse.

It is clear that in this, as in most spinal disorders of an inflammatory nature, there is a constant element of mischief,—the sclerosis,—which, once in possession, seems implacable; and also there is a congestive element, which varies in amount and intensity, and may thus be called on to account, by its variations, for some of the changes, reliefs, and abrupt gains which at times surprise us and inspire physicians of sanguine temperament with the pleasant belief that they are curing a case of sclerosis.

It is less easy to account for the arrest of these cases than for the changes I mention; but it is altogether probable that posterior sclerosis may really be a systemic disease, of which the spinal changes are but one symptom or part, the whole causal conditions being as yet in darkness. Meanwhile, however, the mere facts of these natural and long arrests of a disease usually progressive offer to future medicine some ray of hope.

Nay, I can see that if, in the changes of existence, it happens that some cases cease to progress and remain inactive for years, or for life, it must be for the reason that a combination of conditions has arisen such as is hostile to the growth of the disease. When we have learned what these are we shall begin to have legitimate hopes of mastering the malady.

My doubts in regard to cures of this malady are shared by almost all of those who have had a great experience, and this is seen either in their positive assertions or in the calm indifference with which they dismiss the whole matter of its therapeutics, after going into the minutest details of natural history.

In France there is still some belief in the value of mineral waters as a means of curing ataxics, and a certain reputation attaches to the springs of La Malou, in L'Hérault. M. Grasset's assertion of the confidence with which the waters of La Malou have inspired practitioners like Charcot and M. Combal, of Montpellier, excited some interest in my mind, and I felt called upon to learn more directly how much there might be in these assertions. The answers, which came to me in private letters, hardly bear out the statement of confidence to be found in Grasset's book, nor was my belief in La Malou increased by the experience of the single patient sent by me to test its value.

I ought to add that in the interesting and modest report on La Malou by M. Privat he states most positive results as due to the waters in question. The cases, as usual, leave much to be desired, in the way of detail, as to what symptoms have disappeared and how long they have been absent. Of seven favorable cases given in Privat's report, one alone can be called a cure. It has the more value as being in the person of a physician, and as having, according to the history, been cured nineteen years after the onset of the disease.

Most ataxics in this country resort, soon or late, to the hot springs of Arkansas, as, a few years ago, they used to go to Gettysburg. I have seen no instance of good from either spa which was not temporary and really due to change of air, while I have seen only too many cases which were more hurt by the long and tiresome journey to Arkansas than helped by the alteration of their surroundings.

As concerns cases like the single cure in Privat's report, it is vain to theorize. The one case in a thousand which recovered must have had some peculiarity which set it apart from the nine hundred and ninety-nine which did not recover, and all that we can do at present is to acknowledge our ignorance and turn for hope to a yet more careful study of this baffling malady.

But in what direction shall we turn? The question opens a large and possibly, in the future, a fruitful field. We know but too well that when this sclerosis is in full possession we can do but little. We then naturally ask ourselves whether, in the earliest stages of the disorder, treatment might not be more efficient, and are met by the statement—to be found in numberless books and papers—that the earliest signs of posterior sclerosis are:

1. Troubles of the motor apparatus of the eyeball.
2. Slight urinary troubles.
3. Neuralgia.
4. Vertigo.

One, two, or all of the four may be the primary signs of mischief, and constitute the first evidences of a malady which in time develops itself in the shape of defective equilibration. The criticism which I feel called upon to make is twofold. First, I may say that, as a rule, the primary lesion which calls attention to the existence of this disorder in the body is usually the eye-trouble or the neuralgic pain, or, more rarely, vertigo. If it be the former, the patient commonly resorts at once to an ophthalmic surgeon, who detects either ptosis and insufficiency of the *rectus internus*, or defect of power in the *rectus externus*, or amblyopia, or some peculiarities of the pupil. He is but too apt in either case to overlook the constitutional malady and to resort, after more or less delay, either to an operation or to the use of prisms. In cases of definite unvarying defect of muscular power an operation may be well enough; but the muscular paresis causing ataxic squints is excessively variable, so that an operation only offers a definite remedy for a variable disorder. A graver criticism of the therapeutics of the knife is that the one squint may be followed by another involving an opponent muscle, and that in a majority of cases the trouble is not a permanent one, and if left to time is sure, in a certain percentage of cases, to result in a cure, or at least in such a modification of the symptom as to make the annoyance endurable. The prescription of glasses to restore binocular vision is less objectionable, but no glass will answer fully where, as is usually the case, the trouble is variable,—slight to-day, extreme to-morrow. The real objection lies not in the glasses, but in the fact that their use contents for a time both the patient and the doctor, and substitutes the treatment of a symptom for that of a grave general disease, of which the eye-symptom should be a sufficient warning.

An illustration of a part of my meaning was furnished last week by the case of a noted railway official who has posterior sclerosis. It began with an internal squint. He has since suffered five times with the same trouble, not always due to paresis in the same muscle. Each time the squint has after a time disappeared entirely.

When, however, it is not the eye-trouble, but the neuralgia or the vertigo, which is the emphatic sign of disease, it is usually the general practitioner who is at fault, and who continues, for a period of fatal delay, to treat as rheumatic that pain which is the pregnant indication of a graver malady. The result in either case is that it is rare for neurologists to see posterior sclerosis in its earliest stage, and therefore in that condition which may reasonably be supposed to afford a hopeful chance of treatment.

But let us look back still further. Is it not possible that in this, as in other diseases, there may be a stage which precedes that of the distinct signs now so well known, and which, if it were further studied, might afford opportunities of treatment which, with our present knowledge, are somewhat wanting? A larger and more refined study of the prodromes may yet open for us, in this as in many disorders, a field for research and for efficient remedial means of which as yet we little dream.

It is never pleasant to say to a man who does not feel very ill that he is in the grasp of a disease which is an almost absolute sentence of gradual failure and ultimate death; nor is it always wise to do so, unless something in the pecuniary situation of the patient makes it a kindness to save him if possible, by such a decision, from the dangerous fatigue of long journeys to useless spas, or to convince him of the folly of going from doctor to doctor with a lessening purse and a growing disease. I have said above, to save him "if possible." Very often it is not possible. The temperament of this disease is as hopeful in most cases as is that of tubercle of the lungs, and few men can be made to believe that they are incurable.

Let us pass, then, from this unsatisfactory question, and ask ourselves what we shall advise in a case of posterior sclerosis which, having run the gauntlet of eye surgeons, water-cures, and hot springs, has come down from higher levels of hope to the sad knowledge that it is incurable, and asks of us only, How shall I live so as to be most comfortable and useful, and in what way can I postpone the inevitable result?

As regards treatment by drugs, I am sure that I have seen, over and over, good result from two drugs,—nitrate of silver and iodide of potassium,—and of these the latter has given me the best results. Nor can I say that these were seen only in cases of syphilitic origin, my belief being that, even if sclerosis have been a sequence of syphilis, it is in no respect made thus more easy of cure. In fact, some of my best results have been won in scleroses where there was no reason to suspect a specific origin. In one case, a physician, the gain was from inability to walk unaided up to full power to walk without help or even a cane. In another, also in my care just now, the improvement was as great. I have seen the largest gain in cases of habitual drinkers, who became entirely abstinent men while being treated, with one- or two-drachm doses of iodide.

The question of hygiene is the next question which arises.

There is a period, often a long one, in which the ataxic is able to enjoy life to a considerable extent before his powers of locomotion fail. It is in this stage of the disorder that it is most important for him to live by certain rules, which are not at all those which should govern healthy people.

Heat and Cold.—Ataxics vary strangely as to their power to feel the influences of temperature and of storms, but, as a rule, it may be assumed that they are more sensitive than well people. While, in my opinion, nothing is more uncertain than the causation of posterior sclerosis by several of the influences to which it is apt to be attributed, nothing is more distinct than its origin, in a certain number of cases, from exposure to cold or from too cool or too prolonged bathing. In these instances the cause and effect are so related as to leave us little reason to cavil. An abrupt attack of neuralgia appears to mark the onset, and the disease thenceforward runs its course. In two of the cases thus begun I had most reason to be struck with the patients' sensitiveness, but in a goodly percentage of ataxias, no matter how produced, a like peculiarity exists, while also many are totally free from all such disturbances.

The great heats of our summers are very hurtful to these patients, and no class of people seem to benefit more and more plainly than they by changes of climate. The situations which suit them best in summer are moderate elevations, such as the foot-hills of the Alleghanies, or Saratoga, or the Adirondacks. The seaside or cold sea-baths are undesirable. The somewhat mysterious group of aerial states which accompany or constitute storms are most distressing to many ataxic neuralgics. Like the traumatic neuralgics, some of them can predict storms with certainty, and begin to feel their baleful influence long before the rain-belt reaches them. Several of my ataxic cases have kept records for me of the relation of their pain to storms. It is not so certain as in the traumatic neuralgias, and some ataxics never feel a storm. Mr. B. has daily more or less pain, but he is also liable to acute attacks: exposure to cold will cause them, indigestion as surely, and he believes that about sixty per cent. are due to storms. In Captain Catlin's case of traumatic neuralgia ninety-eight per cent. were so related. Mr. C. traces seventy per cent. of the increases of pain to storms. Mr. L. P. has never been able to discover that storms do more than depress him mentally.

I hope at some time to print in detail all that I have learned regarding the influence of storms upon neuralgias other than traumatic. What is most wanted is a set of observations by some victim of ataxia with pain, which shall repeat with equal care those made by Captain Catlin in his own case, and I make here this statement of a want, that it may possibly attract the notice of some one who unites in his own body and mind the needed qualifications.

Electrical Storms.—Electrical storms do not appear to disturb ataxics, although these sufferers now and then share with some hysterical people the power of being anomalously affected by the use of currents of electricity. I have seen several who were made to cough violently when the currents (constant) were used on the cervico-dorsal vertebræ; while in some galvanism has seemed to increase the local loin pains, and in rarer cases to give rise to muscular twitches in the legs when applied to the spine.

Clothing and Warmth.—Increased sensitiveness to cold and storms is, then, an inconstant symptom, but there are a few ataxics who are so readily affected that the exposure of undressing gives rise to pain. I have now in my care one such unhappy person. The use of ice to his dorsal spine gives rise to decided spasms of the legs, and when employed on the cervical and upper dorsal regions it causes vertigo, with tendency to fall forward. It seems as if this gentleman were in a state approaching the normal skin-sensitiveness of birds, in which the shock of rhigolene spray (or, as Ott has shown, the application of sulphide of carbon to the skin) gives rise to convulsions. The general sensibility of ataxics to storms and cold makes it, therefore, needful for them to exercise unusual care in avoiding abrupt changes of temperature and in watchfully suiting their dress to the season. I have known some sufferers from ataxic neuralgia who thought they found comfort in wearing buckskin over a thin under-dress. It is also desirable, in persons who can move about so little as some of these, that they should have, in winter, the great advantage of the radiant heat of an open fire rather than a baked furnace-air, which, by drying the surface, causes so much cooling, by evaporation, as to make a very high temperature essential to comfort.

Exercise.—The question of the hygiene of exercise in posterior sclerosis is a very interesting one from more than one point of view. It would seem probable that excessive over-exertion ought to be a fruitful cause of this disease. I can recall but one case in which it seemed to be so, and in this the patient was also exposed to cold. He was forced, on one occasion, to swim for his life during an hour in rather cold water. On reaching shore, he became suddenly conscious of unnatural weakness in the legs. The day after he had slight pains, and thenceforward the disease, thus abruptly started, progressed rapidly, and with but little check.

Since, then, exertion is a rare cause, it might be thought that it would not prove hurtful in the developed disease; but this can hardly be said to be the case. The hygiene of exercise is horribly simplified in all advanced ataxic cases by the increasing trouble of locomotion, but in the early stages, when the patient is still able to walk with more or less ease, the extent to which we shall advise exertion must depend on the peculiarities of the case. I think I have elsewhere made it reasonably probable that, as a rule, all fatiguing exertion is likely to be hurtful, by proving that, in many cases, total abstinence from exercise is useful. I am sure that there are many ataxias which, in their earliest stages, would be greatly helped by long rest in bed, and I have elsewhere reported examples of such definite gain.

Apart from this fact, it is sure that some ataxics suffer no harm from moderate exertion, while it is equally clear that others are at their best early in the day, and are made worse for every effort at exercise. On the whole, it may be said that all of this class of persons should sedulously avoid fatigue, and that many of them are the better for not walking at all. I presume that most neurologists can recall cases where positive injury came of some excess in exercise. It is but a week since a most notable instance fell under my own observation, where sudden and disastrous progress downwards followed a long and exhausting journey. In such ataxic persons as are at all sensitive to the influence of exercise, and especially of extreme exertion, it is apt to be followed by slight increase of strabismus, by sense of lassitude, and by definite increase of neuralgia and of incoördination.

I need hardly say that it is somewhat difficult to persuade these patients to avoid exercise, when the only obvious harm which comes to them arises from great over-exertion. It is usually needful to explain to them most clearly the reasons which have induced most neuro-pathologists to agree with me in this matter since I first called attention to it. It is somewhat remarkable that even those cases which have touched the limits of the paralytic stage are competent at times, under great excitement, to make exertions which seem incredible. The gentleman whose case I have last mentioned had become so helpless as to walk only when supported by two persons. When in this state a fire took place in a hotel at Cape May. Remembering that he had left certain valuable papers in his bedroom, he went alone up a flight of stairs to his room, secured the papers, descended, and fell at the door of the hotel. A second case, of like nature, exhibited equal power for a few minutes after escaping unhurt from a collision on a railway.

As concerns exercise, then, I usually advise the patient very early in the case of the risks of fatigue; and, whether or not I advise a period of absolute repose, I make prominent the necessity of avoiding exercise. If at any time I see a tendency to rapid loss of power, or if to walk is clearly hurtful, I advise some form of crutches or other support, and I advise them long before the patient feels them to be essential. The result is that of a biped I make a quadruped, and, as the arms suffer in this disease last and least, I throw a part of the duty of locomotion on them.

Now, in ataxics, and in some hysterical people, the use of crutches is very apt to cause what I fully described in my book on Nerve Injuries as crutch-palsy. It comes on in hystero-palsies because of the utter limpness of the user of the crutch, and in ataxia it is due to a remarkable tendency on the part of the nerves to lose conductibility upon even moderate pressure. Thus, ataxics will often complain to you that if they sit so as to compress the sciatic on the edge of a chair, the foot will too speedily, as we say, "go to sleep." For like reason the upper bar of the crutch may occasion a numbness, and finally a lack of power, which is apt to begin in the ulnar distribution in the hand. Whenever any one is put on crutches it is well to teach him to distribute weight between the upper and lower cross-bars of the crutch.

I shall exhibit, at the close of this paper, some of the forms of mechanical support which I have devised for the use of ataxic and other persons. They have already been described in detail, in a lecture on Hysterical Palsies, in the *Monthly News and Abstract* for February and March, 1880.

The evil which comes of such rest as is either desirable or enforced by the growth of the disease may be lessened by having the patient well rubbed once a day. I should prefer to say kneaded, but really no one word expresses what the process should be when we desire to stimulate skin, muscle, and joints. The objects are to excite locally the circulation, to empty thoroughly all the vessels within reach, to flush the whole limb so as to raise its temperature, and to stimulate vigorously the muscles so as to give them, at least for a time, the tone they lack.

Too much mystery is usually thrown about this simple process by those who practise it for a living, but it can readily be taught to any strong and reasonably intelligent servant, and I now know many ataxics who are thus treated every day, to their gain and comfort, by a nurse or a servant.

Digestion.—I do not think that the ataxics are especially liable to dyspepsia, apart from the ferocious gastro-intestinal attacks, which seem to come and go without known cause, or are, in a few persons, caused by storms or exposure. They are able to eat and digest much as others are, but they usually are forced to take aperients from time to time. A pill of aloes and iridin, or of aloes, oxgall, and belladonna, answers usually, or suffices if aided by an enema.

Sexual Hygiene.—The hygiene of the sexual organs is a far more important matter. Some of the French observers ascribe a large proportion of cases to sexual excess, and it is certainly true that many ataxics confess to over-indulgence; but, on the other hand, an increased sexual appetite is one of the very first signs of the onset of this disease: so that we may readily mistake an effect for a cause. I may here note, as a curiosity of this subject, that two of the very few ataxic women I have seen suffered for a year or more from dreams of coitus before any other notable symptom declared itself. In them, as in men, these erratic dreams gave rise to the most extreme exhaustion.

In some few cases the loss of virile power comes very early, and is well marked; but I know of many ataxics who have had children since their disease was well marked, and it is possible to meet with cases, like one I have seen within a week, where the paralytic stage has been reached without loss of virility. Most of the ataxics I have questioned are positive as to the bad results which they feel from sexual intercourse, and there is probably nothing as to which they need to exercise more care than as to this. Some French physicians absolutely proscribe all intercourse, and believe that it is one of the greatest barriers in the way of cure in the early stages of this obstinate disease. At La Malou, where Dr. Privat sees a great number of posterior scleroses, the prohibition of all sexual intercourse is absolute and peremptory; but in this, as in other matters, it is well to be guided by a study of the individual. Where sexual intercourse is injurious to ataxics it is usually no doubtful injury, and is followed by nightly pollutions, by sense of exhaustion, by pain in the loins, and sometimes by attacks of neuralgia. In rare cases none of these effects ensue; and in either case the proper course is clear enough.

Bladder.—As the case advances, the utmost care is needed in regard to the bladder. It is apt, soon or late, to become feeble; retention of a portion of urine, with decomposition of the secretion, follows; then cystitis of a low type results, and but too often this is the beginning of the end. At the least sign of trouble it is well to use the catheter, and to train the nurse or patient to its use.

Tobacco.—Tobacco has a decisively hurtful influence on most ataxic patients, causing, in some of them, the most remarkable increase of nervousness, and temporarily impairing locomotion. It were best avoided altogether.

Duration.—It happens to every one to be asked how long a given case of posterior sclerosis will last, and to what extent the capacity to use the brain will be lost. The latter question is easily answered. I can now recall ataxics engaged in pretty active business, as lawyers, or merchants, or clergymen, or doctors, whose sole incapacity arises out of their pains and their lack of muscular coördination. As to how long a man will live with ataxia is a harder question, and we have no clinical material to help us to definite answers; I mean that nothing about the character of the onset is predictive of the duration of the malady.

I saw a case reach the paralytic stage in three months from the vertigo which was the primary symptom. Death took place within three years. As an illustration of the other extreme, the following case possesses unusual interest:

I was summoned, two years ago, to a neighboring city to see a lady whose history was briefly this. At the age of four years she received a blow on the cervical spine. It was followed by great pain, retraction of the head, and a very rigid state of the posterior muscles of the neck. The treatment by moxas and blisters was severe, but successful, and within a year she recovered entirely. It was soon observed, however, that she had become slightly awkward in her movements, and was unable to walk easily in the dark. As she grew older these peculiarities grew no worse, but were found to limit her power to do with grace or readiness what other children could do. Thus, she could never learn to dance, and reeled if her eyes were shut. Despite these drawbacks, she grew up, married, and had children. When about forty years old the ataxic symptoms began to increase, and for the first time there was distinct numbness of the soles. To these symptoms were added some pain, and finally distinct atrophy, with the usual evidences of degeneration of the gray anterior columns.

TRANSLATIONS.

Poisoning by the Chlorates.—F. Marchand (*Cbl. f. Chir.*, No. 12, 1880; from *Virchow's Archiv*) observed a number of cases in which fatal poisoning occurred from chlorate of potassium given for medicinal purposes in diphtheria, etc. On account of the importance of the matter, Marchand subsequently undertook a series of experiments upon dogs, with a view to ascertaining the symptoms induced by poisoning with the chlorates.

When large doses were given, death occurred very quickly; post-mortem examination showed no changes excepting in the blood, which was chocolate-brown in color, not changing when exposed to the air. The various organs of the body were likewise brown in color to a greater or less degree, according to the quantity of blood contained. When death did not occur shortly the urine evidently contained blood, was dark brown and albuminous. In addition, cerebral symptoms, delirium, coma, and vomiting, supervened, which either gradually disappeared or grew worse, until a fatal result occurred. In these cases the autopsy revealed marked alteration in the kidneys, consisting essentially in an almost entire plugging up of the canals of the pyramids by brown blood-cylinders. These changes are evidently due to an action of the chlorates upon the blood, these salts giving up large quantities of active oxygen to organic substances, and thus giving rise to an oxidation product of the coloring-matter of the blood, methæmoglobin, a body having a brown color with a characteristic absorption band in the red of the spectrum. As a result the blood-cells are disintegrated, and the product of this metamorphosis, being excreted by the kidneys, produces the obstruction above alluded to. Dr. Marchand gives full details.

INFLUENCE OF MINERAL-WATER BATHS.—At a recent meeting of the Académie de Médecine (*La France Méd.*, 1880, p. 212) Dr. De Ranse read a paper the conclusions of which are substantially as follows: 1. Baths at a temperature of 33° to 35° C. (90° to 95° F.), of ten to forty minutes' duration, in a mineral water containing not more than one grain in fourteen hundred and forty-five of fixed principles, produce, at the end of four or five days, general excitation of a physiological character, chiefly shown by more or less feverishness, nocturnal agitation, with languor during the day, digestive disturbance, and occasionally a slight eruption upon the skin. 2. In addition, a sort of excitation, with exacerbation of certain morbid symptoms, is observed in patients, this exacerbation affecting chiefly the dominant symptom of the disease, whether it be rheumatism, ataxia, neuralgia, or what not. 3. The period of this excitation is occasionally postponed later than the end of the first week, and occasionally it returns after the patient has recovered,—a sort of post-thermal crisis. 4. The cause of this action is not found in the thermal qualities of the water, nor in absorption and consecutive action on the organism of the mineral constituents held in solution, nor in an irritative and revulsive action of these constituents on the cutaneous surface. The cause seems rather to reside in a modification of the cutaneous innervation, and, secondarily, by sympathy or reflex action on the innervation of other systems or apparatus of the economy, in particular those affected by the disease. 5. It seems reasonable to attribute this modification of cutaneous innervation to a direct excitation of the nervous fibres of the surface of the skin, by the mineral constituents of the water playing the part either of physical or clinical excitants, or of both simultaneously. Future researches should be made in the direction of determining these elementary actions. 6. From a clinical point of view, the degree of thermal excitation cannot serve as an absolute criterion to estimate the effects of the cure. Generally speaking, however, it may be asserted that a lively and sharp excitation is a favorable prognostic sign.

CASE OF PURULENT OSTEO-MYELITIS CURED BY AMPUTATION OF THE THIGH AND ANTISEPTIC CLEANSING-OUT OF THE MEDULLARY CAVITY.—Professor König (*Cbl. f. Chir.*, 1880, No. 14) had a patient, a man of 39, who had suffered for eight years with purulent inflammation of the left knee-joint, which at length entirely disappeared, but two years later, without apparent cause, returned. Resection was performed with antiseptic precautions, kept up for eight days, notwithstanding which purulent infiltration occurred, and the patient gradually came to present the appearance of a man suffering from septic poisoning. Amputation at the middle of the thigh was then practised, section through the femur showing a large purulent collection in the marrow. The question of exarticulation of the femur was suggested, but the patient's condition rendered such a serious operation unadvisable: so the stinking, suppurating marrow of the affected femur was scraped entirely out with a long-handled spoon; then cotton impregnated with concentrated solution of chloride of zinc was introduced in successive wads, the cavity being cleansed out with the most extreme care by means of these, until the last one used gave absolutely no smell of pus. The entire limb, with the wound, was then washed with a solution of chloride of zinc 1 : 30, and, after the introduction of a long double tube into the canal of the bone, the wound was cleansed and dressed antiseptically. A few days later, on account of renewed pus-formation, the wound was again opened and the bone cleansed out, after which the patient made a rapid recovery. All septic fever disappeared after the first operation.

ABSORPTIVE FACULTY OF GRANULATING SURFACES.—Maas, at the recent congress of German surgeons (*Cbl. f. Chir.*, 1880, p. 214), described his experiments on dogs and men, in which he endeavored to ascertain how quickly certain materials, applied to granulating surfaces in solution, in the form of ointment, or dry, would enter, act on the organism (apomorphia, pilocarpin), or appear in the urine (ferrocyanide of potassium). The results are very interesting. Granulating surfaces treated with moist and warm dressings absorbed many substances more rapidly than fresh wounds. Crusts from burns or lunar caustic applications are actively absorptive, losing this faculty, however, when the crust has been exposed for ten hours to the air. The crusts from sulphate of copper, potassa caustica, nitric acid, and chloride of zinc absorb slightly or not at all. The crust forming upon wounds, treated by exposure, also absorbs little or not at all. On the other hand, granulating surfaces dressed antiseptically with carbolic acid absorb with great rapidity; but even these surfaces, if touched with solution of chloride of zinc, lose their absorptive faculty. Potassa caustica, sulphate of copper, nitric acid, tincture of iodine, and alcohol, all diminish the absorptive power; hot iron, pure carbolic acid, leave the surface unaltered; glycerin makes it more active.

Max Wolff made experiments, in 1870, on the resorption of corpuscular elements, and found that granules of carmine were taken into the circulation by granulating wounds.

TREATMENT OF PROGRESSIVE SEPTIC PHLEGMON BY MULTIPLE INCISIONS AND SCARIFICATIONS.—Kraske (*Cbl. f. Chir.*, 1880, No. 17), in an interesting article on this subject, says that all cases of phlegmon coming to Volkmann's clinic are, when amputation is not demanded, treated by multiple incisions and scarifications. When a patient with phlegmon comes to the clinic, the affected part is punctured and scarified by numerous small incisions, larger cuts being made where collections of pus are found, so as to permit free drainage. The rich, thick, yellow pus wells out abundantly from these bleeding and open points. When pressure by the hand ceases to cause exit of pus, the part is thoroughly washed out with carbolic acid solution, and the purulent cavities cleansed by means of an irrigator. The further treatment consists either of the application of wet carbolic acid compresses, which are changed at least twice a day, or the wounds are permanently irrigated by means of antiseptic fluids. The inflamed part is suspended or supported at as considerable a height as is convenient. Carbolic acid is unsuitable for continuous irrigation, on account of its poisonous properties. Salicylic acid is therefore usually substituted, although this has certain drawbacks. It often seems to disinfect only imperfectly, and gives rise to coagulations in the discharges which stop up the drainage-tubes and shut out the disinfecting fluid from the localities where its action is most desired. Possibly sulphite of sodium, acetate of aluminium, or some similar disinfectant might work better in such cases. By the procedure just mentioned, certain advantages are gained: as much as possible of the inflammatory products are removed, and thus are prevented from arousing phlegmon in fresh localities. At the same time the tension, and therefore the rapidity of absorptive power, of the other tissues is decreased, as are also the pain and the danger of gangrene. But the numerous punctures are not only points of exit for deleterious matters; they also render more easy the penetration of the disinfecting materials to the tissues, and consequently prevent excitation of fresh points of inflammation by effete material. The hemorrhage, also, which is often quite considerable, has a favorable influence in checking inflammation. Depletion of the overfull capillaries, with a rapid influx of oxygenated blood, results, which is much better calculated than the stagnant, deoxidized fluid, the place of which it takes, for the nourishment of the tissues and the restoration of disturbances of nutrition in the vascular walls.

The result of this treatment is striking: the temperature falls almost to the normal, and if it again rises it does not do so to excess, and soon falls again. Almost without exception the process changes its progressive character, the redness and swelling go down, and the parts resume their natural appearance.

Among the cases observed the number of those which showed little or no improvement was small.

THE CAUSES OF DEATH AFTER BURNS.—L. v. Lesser, in an elaborate article recently published in *Virchow's Archiv* (*Cbl. f. Chir.*, 1880, No. 16), details his experiments in relation to Sonnenberg's reflex hypothesis, according to which sudden death after burns occurs from reflex lowering of the vascular tone. Lesser's experiments and reflections lead him to the view that Sonnenberg's theory is erroneous, and that the processes occurring at the point of burning must be regarded as to their effect on the general organism. The theory of overheating of the blood is disproved by careful thermometrical observations: only those portions under the skin which has been burned show any rise in temperature, and these according to the thickness of this structure. The theory of death from suppression of perspiration is also without foundation. The changes which may affect the blood after its passage through the vessels of the burned tissues deserve especial mention. That these are important we may be sure from the high temperature found directly under the burned places, and also from the long duration of this elevated temperature. In fact, after extensive burning or scalding, marked changes take place in the red blood-corpuscles, numerous notched forms, etc., occur, and many rouleaux of red blood-corpuscles are found, as well as granular or dissolved blood coloring-matter, coloring the serum dark red.

When the patient survives, this free coloring-matter and the altered blood-disks are gradually eliminated through the kidneys. The parenchyma of the kidneys does not suffer essentially from this condition of affairs, though hyaline and epithelial cylinders are found. Extensive changes are found in other organs.

The overheating of the blood or the changes in it produced by exposure to heat are not such as to give rise to poisonous matters which may act unfavorably on the nerve-centres, however much its constituents may be altered. Blood-clots are often found in the heart, in various capillary vessels, particularly those of the intestine, with some sanguineous effusion, also in the muscular tissue, and in the serous membranes of the abdomen and thorax, particularly when the influence of the burning extends so far. In fact, the appearances are very similar to those found by Naunyn in his experiments on animals which had been frozen and thawed. The practical upshot of this paper is that antiseptics are to be used locally and transfusion employed early, if possible, but also late if collapse has set in. In addition the kidneys are to be aided in throwing off the load of effete matter.

INFLUENCE OF CANTHARIDES UPON THE UROPOIETIC ORGANS.—F. Shüler (*Cbl. f. Med.*, 1880, p. 181; from *Deutsche Zeitschrift f. Chir.*), after giving an historical account of the use of cantharides, adds a description of the toxic symptoms produced by this drug, the statement being based upon an analysis of fifty-seven recorded cases.

Disturbance of the sensorium, convulsions, unilateral paralysis and anæsthesia, vomiting, rectal tenesmus, tarry stools, pain in the bladder and region of the kidney, together with cramp of the vesical sphincter, were among the chief symptoms. Autopsy showed blebs and ulcerations in the mouth, hemorrhages and ulcers in the intestinal tract, parenchymatous and desquamative inflammation of the kidneys, hemorrhage into the bladder, with the formation of blebs, pseudomembranes, and ulcers in the latter. By injections of cantharides into the abdominal cavity or subcutaneously of cantharides, a simultaneous inflammation of the kidneys, the ureters, and the bladder could be observed: this was often so severe that the entire mucous membrane was loosened and separated.

ABNORMAL PIGMENT-FORMATION, AND ITS CAUSE.—Krocker (*Charité Annalen, Cbl. f. Chir.*, 1880, p. 220) describes a case similar to that of Litten, called "pigment-neurosis after typhoid." A girl 19 years of age, after having had a light attack of typhoid, showed variously-sized pin-head to pea-sized pigment-spots, which were of different shades of brown, and which began on the face and gradually involved the entire body except the back. The patches were mostly dark and large, and none of them were seen to disappear. The patient complained of palpitation of the heart, and an anæmic murmur could be perceived. Since similar spots occur in other anæmic persons, Krocker thinks that the disease is due to anæmia.

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THE NEW PROFESSORSHIP OF DISEASES OF CHILDREN IN THE PARIS FACULTY.—Professor Parrot, who has been appointed to this position, has about two hundred beds in the Hôpital des Enfants at his disposal. He is an indefatigable worker. All the notes of cases he dictates himself; he also performs all the post-mortem examinations. A new lecture-room, together with a laboratory, has been placed at his disposal.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, MAY 22, 1880.

EDITORIAL.

THE PHARMACOPŒIA CONVENTION.

THE Pharmacopœia Convention which met last week, in Washington, may be considered to have been a success, and must, we think, have satisfied even Dr. Squibb that there is still vitality in the method which was inaugurated over half a century ago,—a vitality whose rejuvenescence we freely admit has been largely due to the exertions of Dr. Squibb himself, directed though they were against the old ways.

Nearly forty different incorporated societies and institutions were represented upon the floor of the house, and there was a sufficient earnestness on all sides to give life, if not acerbity, to the debates. It is true that the four great cities of the Atlantic sea-board contain the homes of nearly all of the delegates; but we opine that in these cities there is sufficient catholicity of sentiment to prevent the regrettable absence of other representatives from being destructive to the purposes in hand.

Dr. Amory, of Boston, who was selected as President of the Convention, filled his position with dignity and decision, and much praise is due to Dr. Judge, of Cincinnati, for the able and impartial manner in which he presided over the rather tumultuous meetings of the Committee of Thirty-Six, in which all of the work of the Convention was practically done. The arrangements of the Washington Committee of Reception were very excellent, and by means of a night session, which was protracted until 2 A.M., the Convention was able to avail itself of the excursion offered to Mount Vernon.

In regard to the general plan of the future Pharmacopœia, the propositions of the American Pharmaceutical Society were largely adopted. It was decided that all formulæ should be in parts by weight, excepting in so far that the Committee of Revision was permitted to employ the volumetric process for fluid extracts if, in its opinion, such process was the best. No doses and no toxicological or therapeutic information are to be allowed in the Pharmacopœia. The descriptions of drugs are to be much fuller than in former editions, and especial care is to be directed to the giving of all distinguishing characteristics and tests. Finally, the arrangement of the Pharmacopœia is to be purely alphabetical.

The Committee of Revision is composed of twenty-five members, and is competent to fill vacancies, also to create vacancies if members do not perform work. The only criticism to which it is open as regards its membership is in the absence of the chief medical therapeutic authorities of the country; in its pharmaceutical department it is very strong. It is composed as follows:

Dr. Ruschenberger, Dr. Wormley, Prof. J. M. Maisch, Prof. J. P. Remington, A. B. Taylor, Philadelphia; Charles Rice, Prof. P. W. Bedford, Dr. H. G. Piffard, Dr. E. R. Squibb, Dr. Castle, New York; Prof. C. L. Diehl, Louisville; Dr. T. F. Wood, North Carolina; Dr. Lawrence Johnson, W. S. Thompson, Mr. Parsons, Washington; Lewis Dohme, Baltimore; Dr. E. S. Wood, Dr. Robert Amory, Prof. Markoe, Thomas Doliber, Boston; Prof. J. F. Judge, Cincinnati; Dr. Wall, St. Louis; Dr. Gibbs, U.S.N.; Dr. Huntingdon, U.S.A.; Prof. Oldberg, Marine Hospital Service.

The idea is expressed that the meetings of the committee ought to be held alternately at New York and Philadelphia. This is very well, provided that the New York members of the committee are willing and able to work. A large amount of valuable material for the revision was presented to the Convention, but almost all of it, excepting the volume of the American Pharmaceutical Association, came from Philadelphia. Professor Rice deserves the greatest praise for the labor he has performed as Chairman of the Committee of the American Pharmaceutical Association, but up to the present time the whole working power of New York City, so far as the Pharmacopœia revision is concerned, has centred in him. We trust this centralization will not continue. Boston was certainly much more active during than before the Convention. We trust that its representatives upon the committee will also labor in finishing the work already so nearly completed.

BROMIDE OF ETHYL.

IT is not often that a prophecy so soon meets its fulfilment as is the case with the predictions in the paper upon bromide of ethyl recently published in this journal.

Writing under date of April 13, and therefore before the issue of the number of the *Times* alluded to, Dr. A. Wellington Adams describes an accident which occurred during the administration of the new anæsthetic. The full report may be found in the *Hospital Gazette* of May 1, and we furnish only a short extract, with the statement that the bromide seems to have been used carefully and by competent hands:

> "He [the patient] next relapsed into a quiet state bordering on complete anæsthesia, whereupon I hastily turned to where my instruments were lying, in search of that with which to begin the operation, keeping the while my fingers upon his pulse.
>
> "While in this attitude, and engaged in fumbling over the instruments, which occupied but three or four seconds, I perceived a sudden cessation of the pulse, causing me to involuntarily turn and observe his appearance, which was that of facial cyanosis with both venal and arterial turgescence. The respiratory movements were imperceptible, the eyes turned upward and immovable in their orbits, the jaws locked, and the entire body somewhat stiffened."

Dr. Adams further states "that there was no stertorous breathing, no forced respiration,—in fact, none of the symptoms of asphyxiation."

Recovery occurred in a few minutes, but the case certainly confirms the asserted resemblance of the action of the bromide to that of chloroform.

CORRESPONDENCE.

LONDON LETTER.

THE elections have passed away with a certain percentage of sudden deaths, but with little general excitement. Two medical men have been returned to the new parliament,—Dr. Lyons, for Dublin, and Dr. R. Farquharson, for West Aberdeenshire. The latter is well known to the profession from his numerous contributions to medical literature and his work on therapeutics. He is an assistant-physician to St. Mary's Hospital and Lecturer on Materia Medica in the school there. He is also the representative of an old family in Aberdeenshire. He is a man of character, and will make a most excellent representative of the profession at St. Stephen's,—a thing much to be desired. As at once a medical man of reputation and a landed gentleman, he is therefore in a very good position to look after medical interests, and his opinion will carry weight with it in medical matters and when the next medical bill is introduced, which, with all the other matters to be attended to, is not likely to be soon. Nor is it at all desirable that any medical bill be essayed until the profession knows its own mind on the subject a little better than it does at present. The government which put its foot down on scientific inquiry in England by passing the Vivisection Act has gone to its unhonored grave without any professions of regret on the part of the physiologists of Great Britain. The country gentlemen who passed "the Conservative Sportsmen's Bill, to prevent the liberal physiologist from inflicting pain upon animals," are for the present rusticated very efficiently, and so prevented from further mischief,—at least for a time.

A trial has just taken place here which is interesting in many respects to the profession. On the downs south of London, near the famous Epsom race-course, stands the Epsom College for the Education of the Sons of Medical Men. It is an institution of repute, and the education given there is solid, and of a kind peculiarly adapted for boys who intend or are intended subsequently to enter the profession. The particulars are briefly as follows. A certain Dr. Howell had had several sons at this college, and had, or thought he had, some cause for dissatisfaction against the ruling authorities of the institution, which is managed by a council. This council governs the place, but allows the head-master to have boarders in his house. So Dr. Howell arranged with Dr. West, the head-master, that the next boy he sent there should be taken into his house as a boarder, so as to be under his personal supervision. All went well until, unluckily, this youth acquired scarlatina. Now, scarlatina is a well- and generally-recognized infectious malady, and, when it appears in a school, causes much dismay among those who possess any responsibility therein. So, when there was no longer any doubt about the nature of the malady, the medical man in attendance advocated, as is now the rule, isolation, in order to prevent the spread of the disease. The college has an infirmary attached to it for the receipt and treatment of these infectious cases, but, of course, in the head-master's house there was no infirmary, and, as isolation was the predominant idea, it was determined to send young Howell to the college infirmary, where, unfortunately for him and all concerned, he died. The father was enraged at this, and brought an action against the head-master. The English law, unlike most European codes, recognizes nothing but manslaughter or acquittal where there is alleged misconduct which leads to the death of any person. Well, Dr. Howell did not prosecute Dr. West and his auxiliaries for manslaughter, which would have been a very serious affair, if it would have been practicable at all, but entered upon a civil action. It appeared in evidence that when the medical attendant of the college, Mr. Jones, had diagnosed scarlet fever, he decided that the boy should be removed from the room he ordinarily and then occupied, as it was too small for proper ventilation. He suggested the removal of the boy to the infirmary. Dr. and Mrs. West demurred at this, as there was the agreement that the youth should be under personal supervision, and that would be impossible if he were removed. Mrs. West was personally unacquainted with the infirmary, while the doctor was not conversant with its condition, as to whether it was in a fit state for patients to be sent into it or not. Here comes the unfortunate part of the whole business; and, as the same thing, as regards its broad outlines, may occur again very readily, it is desirable to review somewhat critically what was done. The doctor's orders were carried out, and the boy was removed. His mother had previously been made aware that the boy was sick; now the father was informed of the state of matters, as regarded the nature of the illness and the removal of the boy to the infirmary.

The question raised before the jury, as to whether the person to whose charge a boy is intrusted is legally justified in transferring that charge to another without the permission of the trustor, and decided by them in the affirmative in this case, does not concern us here. It is the medical aspect of the case which is important. It is alleged by Dr. Howell that the infirmary was not in a fit state for the reception of patients, and in this he is supported by his wife and his son, also a medical man. They assert that the infirmary was damp, cold, and draughty, and that there was only a fire lighted in it a few minutes before the boy's removal to it. By the defendants it was admitted that the infirmary, or, anyhow, that part of it occupied by young Howell, was not in the condition it might have been in. Some pipes had burst, and were being mended. Probably it was not regarded as any part of Dr. West's duties as head-master to see to the infirmary, which was under the government of the council; still, it was a very unfortunate fact that the infirmary was not in a fit or, at least, desirable condition for the receipt of patients. Probably the death of the patient was largely attributable, as asserted by his father, to the unprepared condition of the infirmary. But the essence of the question lies—for us at least—in this: Was it necessary so precipitately to remove a scarlatinal patient to a chamber in a questionable condition? This question must necessarily crop up from time to time. The removal was not undertaken for the good and benefit of the patient; it was unquestionably for the protection of the other inmates of Dr. West's house. But, surely, the risk of infection and the risk to young Howell's life should have been very carefully balanced before a decision was arrived at. The idea that a room can be aired by a fire lighted a few hours before it has to be occupied is prevalent. Any one of any experience as a country doctor knows well how often this is done, and the outcomes thereof. To air a room, a fire—and a good one—should be burnt the whole of the previous day, and be well banked up with coal or coke at bedtime, and left to burn as far as it will into the night; it should be set agoing again next morning early, and then, in a few hours, a patient might safely be taken into the chamber. And this was the more imperative in this case, where a disused building was to be got ready for a sick boy just after inclement weather. On the other hand, the infectious stage of scarlet fever is towards its later stage and early convalescence. Without saying that Mr. Jones is in any way to blame for his decision, it would seem that if the boy had been kept where he was for twenty-four hours, little harm would have been done to anybody, and probably all this trouble would have been avoided. No doubt if the disease had spread in Dr. West's house Mr. Jones would have been censured for carelessness; but, as it is, a much more serious *esclandre* has been occasioned. It is undoubtedly a difficult matter to decide on immediate action in times of emergency, and to foresee clearly all possible consequences; but, as such a decision will have to be come to by members of the profession, in similar cases, more and more frequently, the lesson of this case may stand them in good stead in the future.

We all suffer at times from some medical fashion, just as ladies do from their fashions in dress; and now it is certainly the fashion to isolate infectious disease and so arrest its spread. Undoubtedly this is very desirable; but then the risks run by the actual patient must not be either forgotten or under-estimated. If in this case any error was committed, it has been atoned for by the vexation, the expense, and the exposure of a trial, which must be injurious to the institution, which is a valuable one. Remote contingencies are not kept well in view by the bulk of humanity; I do not know, indeed, if the individual who will insist upon these contingencies being constantly remembered is not rather an unpopular person, and his warnings regarded as the outpourings of an inordinate self-conceit anxious to air its own cleverness. And so this unforeseen contingency at last crops up, and then disaster follows, and upon its heels exposure and discredit. A man drops overboard from a ship, and then it is found that it is next to impossible to let down a boat, and before this can be done the man sinks; great energy is then displayed in attending to the boats, but all is forgotten by the next time there is a man overboard. So, no doubt, with college infirmaries. But where the chambers for the reception of fever-stricken patients are in a questionable state, the matter of the dangers of removal *versus* the risks of infection must be balanced before any decision is arrived at; and in every sense it seems unfortunate that young Howell was not kept where he was for another twenty-four hours, until the infirmary was got ready for him. Seen by the light of after-events, this is very apparent; what was indicated at the time the decision was arrived at is not so clear.

The subject of hemorrhage from the female genital organs is discussed by Dr. A. V. Macan, of Dublin, in a very complete and thorough manner. He considers carefully the production of hemorrhage in cases of placenta prævia, and shows that the idea that "during the first stage of labor the cervix becomes retracted or shortened" is an error. "This is quite contrary to what is really the case, for the length of the cervix, instead of being in any way taken up or retracted, is, on an average, doubled during the first stage of labor, and its circumference is increased from that of the finger to that of the fœtal head." This is beautifully shown by a section made by Braune on the frozen body of a woman who died at the end of the first stage of labor. In speaking of the treatment of this serious condition, which is one of the *bêtes noirs* of a general practitioner's existence, he says, "Our great object should be to separate the membranes freely from one edge of the placenta. If the cervix be dilated and the presentation partial, this is readily accomplished, and, once it is done, the placenta is free to move upwards and outwards along with the lower segment of the uterus, to which it is attached, and the hemorrhage ceases. If the presentation be, however, complete, we must first separate the placenta at one side or other from the uterus,—if possible, from that side to which it has the smallest attachment. If it be doubtful on which side the smaller segment lies, then we should, with a view to future turning, separate it at the side where we find, by external examination, that the legs of the child are situated. If we be unable to reach the membranes, and the hemorrhage be formidable, we must plug until the membranes are within reach; and if any considerable portion of the placenta overlap the inner os, we should turn as soon as practicable, in the interest of the child. In no case of partial presentation should any artificial separation be attempted, for we can never tell the exact amount of separation that may be necessary to allow the inner os to become fully dilated. The only circumstances that justify the artificial separation of the placenta are where the presentation is complete, where it is done to convert the case into one of partial presentation, or in those rare cases where the total separation of the placenta may be advisable before the birth of the child."

Sir James Simpson advocated the plan of the removal of the placenta bodily, and then the extraction of the fœtus by turning. Whatever has to be decided upon, there are few emergencies more trying than to find a case of placenta prævia in the country, miles away from any other medical man. The consciousness of the weight of responsibility, the necessity for immediate action, the issues at stake, produce a condition of mental tension which is very trying. To be thoroughly conversant with the management of the graver complications of labor is the only plan which will keep the practitioner's conscience at ease. A grave surgical operation has very rarely to be performed without consultation, but at any moment a most serious complication in labor may present itself,—so serious as to threaten the lives of both mother and infant,—which will tax to the utmost the energies and presence of mind of the practitioner. Fortunately, midwifery is very fairly taught at all schools of medicine now; but the student must be made aware that there is no peace of mind in practice without a thorough and efficient acquaintance with the complications of natural labor. An ignoramus may have luck and scramble through life without an accident occurring, but such experience cannot be common. For a mother to be lost in labor is a very painful thought to every one, and the laity are very censorious, and rightly so, when such a catastrophe does occur.

In his consideration of the hemorrhages of the early months of pregnancy, Dr. Macan says nothing of the use of ergot to arrest the hemorrhages without necessarily producing abortion. Some little time ago, in conversation about the use of ergot, Dr. Angus Fraser, of Aberdeen, told me that he had frequently used ergot to arrest uterine hemorrhage in pregnancy, and that he often found it arrest the bleeding without procuring the expulsion of the ovum. I am not aware that this use of ergot is generally known; but it is very desirable that such knowledge should obtain generally. At the worst, abortion can only take place, and in the early months of pregnancy the life of the ovum cannot weigh seriously against the life of the mother.

There are, too, women in whom scarcely anything could produce abortion. An accident which may seriously endanger life leaves the ovum undisturbed, and the pregnancy progresses; and in such women the use of ergot in hemorrhage from the uterus is clearly indicated. Others there are, again, in whom the slightest thing is sufficient to induce abortion. It is a great matter for the youthful practitioner to learn this distinction, and to act accordingly. Some parents are very touchy on the subject of the loss of any of their progeny, no matter how immature; and in the struggle for existence it is well to avoid every source of resentment or enmity.

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, FEBRUARY 26, 1880.

THE PRESIDENT, DR. S. W. GROSS, in the chair.

(Continued from page 415.)

Intra-ocular tumor. Presented by Dr. C. B. NANCREDE, from Dr. ALBERT G. HEYL.

THE patient, Miss C., æt. 48, from whom this specimen was taken, applied for treatment at the eye and ear department of the Episcopal Hospital, February 16, 1880. The clinical history is as follows:

About one year ago the patient noticed that the sight of the left eye was affected; she was not aware of any pre-existing inflammation in the eye, or of any injury to the organ. About three months ago a violent attack of inflammation of the eye occurred, characterized by great pain, exophthalmos, injection of the conjunctiva; for this she was treated antiphlogistically by Dr. J. R. Weaver, of Norristown, Pa. The acute symptoms subsided, but the eye ever since has been more or less irritable, and at times painful. At Dr. Weaver's suggestion, she finally consulted me. The examination of the eye resulted as follows:

R. E., $V = \frac{20}{20}$. No abnormal appearances in the fundus.

L. E., entire loss of sight. Eyeball shrunken, presenting the condition known as phthisis bulbi. The conjunctiva somewhat injected. The sclerotic dimpled in two places, near the ciliary region, in the upper inner quadrant, as though bands of connective tissue in the interior of the ball had dragged upon it. Ball tender to touch in one or two points, but not generally sensitive. Anterior chamber shallow; pupil dilated; lens completely cataractous; at the position of the anterior pole, and within the capsule, a small black body about the size and shape of a canary-seed.

The removal of the eye was advised, and accomplished on February 17. The enucleation was attended with a little difficulty, owing to the matting together of the tissues about the insertion of the muscles.

After removal of the eyeball, the cornea, which was found to be greatly thickened, was cut away, in order to examine under the microscope the black spot in the lens.

The sclerotic, in addition to the two indentations already spoken of, had also a deep sulcus near the equator bulbi, apparently due to the retraction of the interior structures. An equatorial cut was made through the sclerotic. It was then found that the interior of the eye was composed of a tough, blackish mass, between which and the sclerotic a cavity existed, apparently due to the contraction which this interior mass had undergone. This mass was adherent about the optic disk; possibly also in the ciliary region, but to a very slight extent, as the anterior half of the sclerotic separated from the interior mass with very little traction. The depression in which the lens lay was perfect in shape; the posterior capsule could be peeled from it. The lens was of the consistence of very thick gruel.

Report of the Committee on Morbid Growths.—"A thin section of the new formation developed in the eye upon microscopic examination is seen to be made up entirely of spindle-shaped cells, the protoplasm of which is densely pigmented with minute granules of black pigment. The blood-vessels are embryonic in character. The growth is a spindle-celled melanotic sarcoma.

"March 25, 1880."

AN EMETIC FOR INFANTS.—A correspondent of the *British Medical Journal* states it as his experience that half a teaspoonful of glycerin acts as a simple and efficient emetic for infants.

REVIEWS AND BOOK NOTICES.

SURGERY IN THE PENNSYLVANIA HOSPITAL. By THOMAS G. MORTON, M.D., and WILLIAM HUNT, M.D., Surgeons to the Hospital. With Papers by JOHN B. ROBERTS, M.D., and FRANK WOODBURY, M.D., late Resident Physicians in the Hospital. Prepared by direction of the Managers of the Hospital. J. B. Lippincott & Co., 1880.

There is probably no general hospital in the United States in the wards of which can there be found as many and as great a variety of interesting surgical cases as in the old Pennsylvania Hospital: hence there is no school which affords greater facilities for the study of practical surgery than this institution.

This fact being generally conceded, consequently anything relating to the practice of the hospital emanating from the members of the surgical staff immediately commands the attention of the medical profession. In 1868 and 1869 two volumes of "Reports" were issued by the staff of the Pennsylvania Hospital, but were discontinued, not on account of a deficiency of instructive material, but for the very good reason that the enterprise was a pecuniary failure. The editors of the present volume have done wisely, perhaps, in selecting the above title for their work, but, so far as we have been able to determine from a hasty inspection of it, it seems to us that the difference between this work and the Reports of 1868–69 is rather in the title than in the character of the contents. A work designed to give a general idea of the surgical practice of a large hospital, as we would naturally infer was the aim of this volume, if its title fairly represents its object, should be rather more comprehensive in its scope than this appears to be. Every surgeon who has been, or is at present, connected with the hospital has done work which has been of more or less value, and consequently, if published, would be of decided interest to the profession at large. In the "Surgery in the Pennsylvania Hospital," however, we will find papers of decided merit on various topics, but these papers will be found to represent or give expression to the views of the writers themselves rather than to those of the entire surgical staff. If, therefore, one who is not intimately acquainted with the practice of this institution expects to get, by a perusal of the contents of this volume, a general *résumé* of the surgery of the hospital, he will be doomed to disappointment.

On pages 274–6 there are a description of two modifications of Malgaigne's hooks, illustrated by five wood-cuts, and the reports of cases of fracture of the patella treated with them. No one will deny that by means of this apparatus accurate apposition of the fragments of a broken patella can be secured and bony union possibly obtained; but that their use is free from the risk of exciting inflammation of the knee-joint and, as a consequence, jeopardizing the integrity of the joint itself, and possibly the life of the patient, their most devoted advocates will hardly venture to maintain. Only one other method—Professor Agnew's—of treating fracture of the patella is noticed, and his apparatus is disposed of in a single paragraph of four lines and a half.

It may be of interest to state that the modification of Scarpa's club-foot shoe, of which there is a wood-cut on page 239, was the suggestion of a non-professional gentleman, who is at the head of one of the large iron-works of this city. The apparatus was made by one of his workmen, but to Dr. Morton is due the credit of having first called the attention of the profession to its supposed advantages in the management of club-foot.

The abdominal tourniquet figured on page 14 is incorrectly called Professor Pancoast's. This instrument was devised by Skey, and Professor Pancoast modified it by placing an additional compress on the compressing pad so that the aorta might be controlled without the vena cava being included.

On page 16 we are introduced to a new term, *i.e.*, the use of the noun section in the sense of a verb. We are hardly prepared, however, to accept this verbal innovation as an improvement on the term ordinarily employed to express the division of a bone by a saw.

Much that is contained in this work has already been published elsewhere; yet, since it comprises a part of the record of the practice of the hospital, it very properly finds a place in this surgical *résumé* (?).

The statistics appended to each paper are of great value, and, apparently, have been arranged with much care.

The publishers have done their portion of the work in a very creditable manner.

A HAND-BOOK OF PHYSICAL DIAGNOSIS. By DR. PAUL GUTTMAN, Privat-Docent in Medicine, University of Berlin. Wm. Wood & Co., New York.

There is no such word as fail. This seems to resound in the ears of the rising physician, leading the gynæcologist to devise new forms of the speculum or forceps, and the clinical physician to add a new work on physical diagnosis to medical literature. After reading most of the works on this subject our reflection usually has been,—

> "Oh, wad some power the giftie gie us
> To see oursels as others see us!
> It wad frae mony a blunder free us,
> And foolish notion."

Our author claims as the peculiar excellence of his work its peculiar systematic arrangement of the subjects treated.

Now, this is to us the chief objection to the book, which contains many most interesting observations. To our mind the basis of classification should be the physical conditions which dominate the production of physical evidence, and then the various signs elicited by the various methods of examination should be detailed, so that the mind, being aroused to interest by the statement of the governing principles, may be more readily impressed. Dr. Guttman has chosen to detail with, we think, accuracy the symptomatology of physical diagnosis, and yet the book reads like a catalogue or a dictionary. For this reason we think that those of the profession who have not been trained by hospital experience to habits of minute analysis of cases will find this work unsatisfactory.

For medical students the book is not desirable, as the essentials are not broadly laid down, distinct from details which, though interesting, are confusing to a beginner.

Then some most important points are hastily passed over, for instance, the matter of cardiac and aneurismal murmurs, while the observations on pericardial murmurs are particularly well chosen. The work contains a section on the examination of the urine. Perhaps the writer counted on exciting the enthusiasm of his readers on the Spanish bull-baiting principle by the exhibition of a page of beautifully colored representations of chemical reactions, and this would make them excuse all deficiencies. He has endeavored to condense his material to a degree which has led him to omit all consideration of a substance like urea; to state without qualification that every urine containing casts is albuminous. Eighteen pages are devoted to the subject of laryngoscopy, and this section is well written, containing useful information for medical men who do not expect to become operative laryngoscopists.

We would commend the many useful observations of the author, who must have written this book as the outcome of careful clinical observation, and yet deprecate the plan of incorporating so many branches of special investigation in one volume, which we believe has only been successfully done by one author, and he a native of our city. E. T. B.

The Relation that the Circulation and the Animal Heat bear to Each Other in Disease.

We have received a most interesting and, we think, valuable pamphlet of thirty-eight pages from the author, Dr. Ignacio Alvarado, of Mexico, on "Las Relaciones que hay entre la Circulacion y la Calorificacion en las Enfermedades." Dr. Alvarado has studied his subject very closely, and has observed several diseases,—especially, so far, *yellow fever*, the excellent researches on which are given in his essay before us.

After a thorough consideration of the relation that the circulation bears to animal heat from a physiological stand-point,—having minutely examined the works of Traube, Cl. Bernard, Lorain, Marey, Liebermeister, Vulpian, etc.,—he enters the field of pathology, and finds that a similar relation of the two functions occurs in disease. He has, firstly, made a physiological study of the relation existing between the degree of heat and the number of pulsations among people living in the localities of Vera Cruz and the city of Mexico. In the first city he found the normal heat of the body from 36.5° to 36.9° C., the number of heart-beats being from 70 to 74. In the city of Mexico the body-temperature was about 37° C., never above 37.4° C.; the pulse about 75, never going higher than 80. For convenience of study, he divides the number of pulsations by the degree of heat in normal and abnormal cases, and finds that the quotient generally bears a certain relationship. In the physiological state he finds, then, that for the rise of every one-tenth of a degree of heat there is a proportionate increase of one heart-beat. For instance, a temperature of 37.5° C. corresponds to 80 pulsations; 38° C. to 85; 38.5° C. to 90, etc. So that if the normal amount of heat were 39° C., the normal pulse would be 95; if the temperature were 41.5° C., the heart would beat 120 times per minute.

These results, as such, as Dr. Alvarado himself remarks, are of no value whatever. It is, therefore, necessary to compare one quotient with another, which, being invariable, is taken as a unit of measure. In such instances, of course, the difference between both would express the pathological relation; then we would appreciate the value of any quotient. If we are ignorant of this fact, a patient, for example, having 135 pulsations and 36.5° C. of heat, we would have as the quotient 3.69°, the value of which we would not know how to appreciate. But if we know that 1.91° is the quotient that physiologically corresponds to 36.5° C. of temperature, then, of course, the number 3.69° would signify a great deal. If the patient, again, only had 40 pulsations and the same temperature already named, the quotient would only be 1.09°, which, compared with 1.91°, would give us the difference existing between the pathological and the physiological state. So that the unit of measure for a temperature of 36.56° would be 1.91°, a unit which, however, will not do for other temperatures. It was found necessary, then, to get a unit for each temperature in the normal that would compare with the pathological state. The quotients that correspond to the temperatures physiologically, and with which any quotient found in disease can be compared, are the following: 1.80° for 36°; 1.91° for 36.5°; 2.02° for 37°; 2.13° for 37.5°; 2.23° for 38°; 2.33° for 38.5°; 2.42° for 39°; 2.52° for 39.5°; 2.62° for 40°; 2.71° for 40.5°; 2.80° for 41°; 2.89° for 41.5°.

Dr. Alvarado then constructs two tables, one of which he calls "Table of Quotients," and the second "Table of Differences," which he uses to study his subject from a pathological point of view. By the use of these two tables we are enabled to study the relation of the two functions in question, normally and pathologically: in the first we study the amount of the relationship, and in the second the difference there is in normal and abnormal cases. There is another table constructed which is still more practical. In this the number, according to certain arrangement, represents the relation under observation, and at the same time it also expresses in degrees of heat the thermo-circulatory difference between a normal and an abnormal case, both presenting the same number of pulsations, as in the following instance. Suppose a patient has a pulse of 90 every day for three consecutive days, but a temperature of 38° C. in the first day, 37.5° C. in the second, and 38.5° C. in the third. The difference in the first day would be expressed by 0° C., because 38° C. of heat corresponds, physiologically, with 90 pulsations; on the second day, however, the difference would be expressed by —0.5° C., because he has then half a degree of heat less than the amount of temperature corresponding with a pulse of 90; on the third day the difference would be +0.5° C., for the reason that then he has five-tenths of a degree in excess of the amount of temperature corresponding with 90 heart-beats, and so on. This table Dr. Alvarado calls "The Table of Thermo-Circulatory Indices."

By means of these three tables Dr. Alvarado has studied disease in its various forms, with especial regard to the subject under consideration, and has applied this mode of investigation to a close study of yellow fever, upon which the author is at present writing a book. The pamphlet before us shows many patient observations on that dreadful disease, and his researches we have no doubt have been most accurate, stained with no tinge of partiality.

He has studied those cases that proved fatal as well as those that ended in recovery, excluding those in which a remittent type of the disease was present. He divides the disease into three stages, those of "ascension," "fastigium," and "descension:" to each of the first two stages he allowed three days, and to the third five days.

It is to be borne in mind, according to the third table, that the "indices" have either a + or — sign, and that each of these indices represents a certain relationship between the pulse and the temperature. In his observations of the malady under consideration he found that if the positive sign of the indices predominated in the stages of ascension and fastigium, the condition of the patient was generally unfavorable, but favorable if these signs were seen in the third stage, and *vice versa* with regard to the negative sign. It is found, then, that the positive sign expresses the preponderance of the temperature over the pulse, and *vice versa* with the negative sign. This rule, with regard to the signs in the different stages of yellow fever, the foreteller of a favorable or unfavorable result, is invariable, according to Dr. Alvarado, in the majority of cases, and he firmly believes that this new mode of investigation can be practically applied, and with advantage, to the study of other febrile diseases. His general conclusions are as follows: 1. In health there is a relationship between the pulse and the temperature. 2. A similar thermo-circulatory relationship exists in disease. 3. Of course this relationship, in either case, is not an absolute, but a proximate one. 4. The relationship can be known in a general way, but can be demonstrated by the method of "the quotients," made valuable by the method of "differences," and utilized in practice by the method of "indices." 5. These three methods constitute a *new way* of clinical investigation of easy and simple application. 6. They are as applicable to the study of any febrile disease as they were to that of yellow fever. 7. They have been of great utility in the disease already considered, and can, without doubt, be of great advantage in the study of other affections, and without exception in febrile diseases.

We have thus given the substance of Dr. Alvarado's pamphlet, which contains much original matter illustrative of the very interesting subject. On the whole, we can say that his essay does him a great deal of credit. We anxiously wait for the appearance of his work on yellow fever. D. C.

OBSERVATIONS ON FATTY HEART. By H. KENNEDY, Fellow of the King and Queen's College of Physicians in Ireland, Physician to Simpson's Hospital, and the Whitworth, Drumcondra, and Sir Patrick Dun's Hospitals.

In the dwellings of the period we find many articles without intrinsic usefulness or beauty, but which, in modern parlance, are termed *bric-à-brac*.

This little work on fatty heart might be assigned a place among the *bric-à-brac* of medical literature. There is a flavor of garrulous speculation and a musty odor of antique methods of study, which appear to be the outcome of clinical observation unaided by the possession of modern scientific acquirements on the part of the observer. The portion of the book devoted to pathology shows apparently that the writer has not been accustomed to the use of the microscope. He has suspicions that "he has seen cases where atheroma was, or seemed to be, the result of inflammatory action." He appears to doubt that the medical public appreciate the causes of fatty degeneration from deficient vaso-motor tonus, etc., and he elaborately discusses whether the slow pulse, in some cases of fatty heart, may not be due to fatty degeneration of the pneumogastrics, more especially the right!

There are some accounts of his ability to detect by percussion accumulation of fat behind the sternum and around the heart!

We can commend some very just observations upon the altered character of valvular sounds in fatty infiltration and degeneration. There is also a claim for a peculiar pulse,—a fulness without much force in the percussion-stroke, especially in fatty infiltration. A section is also devoted to prognosis and treatment.

On reading the book one is at a loss to say why it has been written. There is always a demand for accurate descriptions of disease and generalization upon established facts, but no room for speculative theories. E. T. B.

SORE THROAT: ITS NATURE, VARIETIES, AND TREATMENT. By PROSSER JAMES, M.D. Fourth Edition, pp. 318. Philadelphia, Lindsay & Blakiston, 1880.

This little book, which has gone through four editions since 1860, is sufficiently known to the medical public not to require at this time an extended notice. Its author is recognized and respected as a well-qualified practitioner in the department of laryngology. No better guide can be followed. His views of the nature of sore throat are sound, and those of treatment conservative. The work is well illustrated by six semi-diagrammatic figures in the shape of copper-plate impressions colored by hand, as well as by a number of wood-cuts. The first-named feature is distinctive of the present edition, and takes the place of the lithographs of the previous ones.

COMMON MIND-TROUBLES AND THE SECRET OF A CLEAR HEAD. By DR. J. MORTIMER GRANVILLE.

Popular essays. Feeble.

GLEANINGS FROM EXCHANGES.

DEFECT OF THE CEREBELLUM OCCURRING IN A BROTHER AND SISTER.—Dr. Donald Fraser (*Glasgow Med. Jour.*, March, 1880) gives notes of the following cases. The first was that of a young man employed as a paper-carrier. He walked with the gait of a drunken man, reeling very much, his body inclining forward, head thrown back, mouth open, and eyes inclined upward, apparently in constant danger of falling upon his face, though he fell but seldom, and was able to walk considerable distances. Later, he grew worse, and often fell. He was able to walk but short distances, and would stand for hours leaning against a door-post, his body stooping forward and swaying, his head thrown back with a constant nodding motion, as if it were too heavy for his neck, so that he had difficulty in balancing it. His general health was good, and there was no indication of mental unsoundness. Some of his movements seemed choreiform, but could be made as well with the eyes shut as open. As a child, he had been apparently healthy for the first year or two, and then began to reel and stagger slightly, growing worse from year to year.

The sister presented symptoms generally resembling those of the brother. There was a family history of tendency to disease of the nervous system. The brother dying of phthisis, post-mortem examination showed nothing remarkable in the brain and cord excepting a very small cerebellum. Its weight, when separated by cutting through the peduncles, was two ounces and five drachms (one thousand two hundred and sixty grains). The changes were—(1) the cortical gray substance of the cerebellum was little more than half its normal thickness, and there were gaps at the surface, probably caused by collections of fluid in the soft membranes; (2) the white substance presented little apparent reduction, and, in proportion to the gray substance, appeared of undue thickness; (3) the cells of Purkinjé in the cortex were greatly shrunken and contorted, their processes being indefinite and altered in direction.

Dr. Fraser gives various other facts, especially relating to the sister's symptoms and to records of similar cases.

THE INFLUENCE OF MERCURY ON THE COURSE OF SYPHILIS IN CONNECTION WITH SO-CALLED MERCURIALISM.—From a review of a recent work by Vajda and Paschkis, in the April number of the *Archives of Dermatology*, we learn that these writers give the results of the chemical and clinical investigation of one hundred and ninety-eight cases of syphilis, with a view to establish on an objective scientific basis the relations of mercury to that disease, with special reference to the opinion held by the so-called "anti-mercurialists" that late or tertiary manifestations are produced by the drug. The majority of anti-mercurialists claim that the late forms of syphilis are the result of the combined effects of mercury and the syphilitic poison, either through their union to form a new virus or without it. The minority (among whom are Hahnemann and Virchow) regard late manifestations as consequent upon the action of mercury and syphilis at different periods,—either that the mercurial action first produces a cachexia which permits the development of the lesions, or *vice versa*. In order to explain the lapse of time between the primary and tertiary stages, they assume, and in some instances have proved, the persistence of the drug in the body.

To prove the truth or falsity of this view the authors have resorted to chemical analyses, examining urine, placentæ, milk, saliva, bones, fœtal tissues, menstrual blood, and the discharge from gummy tumors. Their results are given in one hundred and seventy-one pages of tables, comprising sixty cases in which mercury was given and afterwards found, and forty-four in which it was not found; fifteen cases in which it was said to have been given and was found, and forty-four cases in which it was not found; five cases in which it was said not to have been given and was found, and thirty-one not found. The possibility of mercury remaining in the body long after its use has been discontinued was thus settled beyond a doubt, it having been found in some of the excreta in forty-two per cent. of the cases examined, in one as late as thirteen years after suspension of treatment.

In order to determine whether late syphilis could be attributed to the effects of mercury, sixty-three cases of tertiary lesions were examined, and in forty-five of these the drug was not found. The authors, therefore, conclude that a causal relation between mercury and syphilis does not exist.

In addition, the results of some of the investigations lead the authors to the belief that the beneficial effects of the iodide of potassium in late syphilis cannot be attributed to its power of causing the elimination of mercury.

NUTMEG-POISONING. — Under the title "Accidental Proving of Nux Moschata" Dr. Howard gives, in the *Hahnemannian Monthly* for February, an account of a young married lady who took, for the purpose of bringing on delayed menses, an ounce of finely powdered nutmeg in half a pint of whisky. The dose was swallowed before retiring, and the patient soon fell asleep, but was awakened a little later by præcordial anxiety and an intense burning sensation at the pit of the stomach. She soon sank into a semi-unconscious condition; the pulse 130, respiration oppressed, face ashy pale, and eyes sunken. Understood questions, but stopped as if forgetting in the middle of an answer. Her intellect was impaired; objects seen appeared multiplied. The head felt enlarged and as if drawn back, the head swam, and there was a sensation of throbbing all over the body. The severe symptoms were relieved by the administration of coffee infusion. There was a good deal of pain in the ovarian regions for several days; the bowels were freely moved. There was profuse urination, with a strong smell of nutmeg, and she had a profuse, greenish, acrid, leucorrhœal discharge. The looseness of the bowels was followed by costiveness, with apparent loss of expulsive power in the intestine; also deficient power of deglutition. There was a peculiar sensation as of some one scraping the back between the shoulders. Dreams of sexual excitement occurred for some days during sleep, followed by exhaustion and a swollen sensation in the ovaries. Stammering was noticed for some time. All these symptoms gradually diminished, and finally disappeared. The catamenial function was not restored.

EXPERIMENTS WITH PEPSIN AND PANCREATIN.—Dr. F. Arnold Lees, in a paper published in the *British Medical Journal*, March 20 and 27, entitled "Therapeutical Experiences with the Digestive Ferments," speaks of Savory's saline essence of pepsin and pancreatin and Bullock's acid glycerin of pepsina porci as the most successful preparations of the kind. He has used them with better result than previously attained in the debility of convalescence, ordering a cupful of beef tea or chicken broth or mock-turtle soup, with which, about half an hour previously (whilst kept warm near the fire), two or three teaspoonfuls of Savory's essence have been mixed. The soup is hardly altered in taste, and sits well on the stomach. In the afternoon, milk gruel treated with a drachm of each of the essences, or pure milk which has been boiled for a minute or two, and then, after partially cooling down, has been vigorously shaken in a bottle with a drachm of each essence, and drunk foaming, has been given with advantage. In abdominal phthisis and other diseases associated with wasting and malassimilation of fat, this sort of improvised koumiss is of advantage. In vomiting from irritable stomach, Dr. Lees finds no remedy so seldom disappointing as Savory's saline essence, either given neat and followed by meat juice or milk and soda-water, or given along with concentrated albuminous fluids, as Brand's meat jellies or koumiss. In infantile or childhood's ailments, Dr. Lees finds Bullock's acid glycerin of pepsine of inestimable value, in the vomiting of so-called infantile remittent fever, infantile tuberculosis, tubercular meningitis, and those forms of infantile atrophy with diarrhœa dependent upon disagreement of milk foods. He cuts off milk entirely, and gives meat juice with the peptic glycerin, and cream with the twentieth part of its weight of pancreatin mixed up with it. In vomiting of pregnancy and in many forms of dyspepsia these medicines have been found peculiarly useful. Dr. Lees's paper is a very valuable and practical one, and may be perused by any medical man with advantage.

THERAPEUTIC VALUE OF THE HYPOPHOSPHITES. — Dr. F. Churchill (*British Med. Jour.*, 1880, p. 472) recommends the following formula, which he calls "Liquor Ferri Hypophosphitis Compositus," and of which the following is the percentage composition:

Ferrous hypophosphite .	2.77
Calcium hypophosphite .	3.5
Sodium hypophosphite .	3.5
Magnesium hyphosphite .	1.99
Hypophosphorous acid .	1.66
Water	86.58
	100.00

One fluidrachm is equal to 6.7 grains of the mixed salts. This liquor is mixed with raisin or other wine in the proportion of one part of the liquor to three parts of the wine, and may be given in half-ounce doses to children about ten years of age. The following formula is suitable for an infant, the dose being increased according to age:

℞ Sodii hypophosph., gr. vj;
Calcis hypophosph.,
Potassii hypophosph., āā gr. iv;
Glycerinæ, ʒii;
Aquæ, ℥i.

M.—Dose, 40 minims thrice daily in a little water.

This mixture must be made up as required, as the hypophosphites deposit after a time when suspended in glycerin. With the exception of a slight chalybeate flavor, this preparation may be said to be tasteless. A few drops on a lump of sugar dissolved in the mouth are agreeable and refreshing. It may be administered in milk or beef tea unknown to the patient. The preparation is particularly recommended in rickets, anæmia, tabes mesenterica, psoriasis, debility from prolonged lactation, in some forms of dyspepsia, in leucorrhœa, myalgia, and muscular pains, as well as in other diseases of debility.

A Case of Typhoid Fever treated with Carbolic Acid Internally.—Dr. Henry Weeks sends to the *Lancet* of February 28 an account of a girl of eighteen who had been ill for a week previous to his first visit. He found her in a very febrile condition, with a highly flushed face, anxious expression, tongue furred, and bowels relaxed three or four times a day. Very little headache; pulse 108; temperature (11 A.M.) 102.5°; skin dry. With the usual instructions as to diet, etc., he prescribed acetate of liquor ammoniæ and compound tincture of camphor. Next day there was no change; sleepless. Day after, slept better; tongue browner; diarrhœa lessened; some scarcely observable spots on abdomen. Pulse 109; temperature (12 A.M.) 103°. A day later, much flushed; tongue more glazed. Pulse 108°; temperature 103.5°. Glycerin of carbolic acid prescribed, six minims every four hours. Twenty-four hours later the pulse had fallen to 100; temperature 101°; tongue moister. Forty-eight hours after the beginning of the carbolic acid treatment the pulse had fallen to 89, the temperature to 99°, and four days later the patient was able to get up and come down-stairs. Convalescence from this date was rapid.

Rapid, Nearly Universal Paralysis—Recovery.—At a recent meeting of the Clinical Society of London, Dr. Buzzard brought forward a case of rapid and almost universal paralysis which had terminated in a complete recovery under treatment. The patient was a man, æt. 44, whose illness had commenced with some drawing of the face to the right, followed shortly afterwards by loss of power and sensation in both upper and lower extremities. On admission into the National Hospital for the Paralyzed, Queen Square, he was found to be paralyzed on both sides of the face, both external recti muscles, and also to a great extent in all four extremities, in the movements of respiration and deglutition, and in the sphincters. There was anæsthesia to touch and pain in the face (especially on the right side), with apparently increased sensibility to heat and cold. Below the middle of each forearm there was almost entire loss of sensibility to touch and pain, whilst heat and cold were distinctly recognized. The sensibility of the trunk was preserved. There was loss of smell and taste on the left side. Electric excitability (by induced currents) was almost absent in the muscles of the face, hands, and lower extremities, and much reduced in the forearms. There was atrophy of the interosseous muscles. Respiration was mainly upper thoracic, the lower part of the chest not expanding, and the movements of the diaphragm being scarcely perceptible. No lesion of the spinal column could be found. The patellar tendon reflex was entirely absent in both knees. Under iodide of potassium at first, and later mercurial inunction, patient began to improve so rapidly that on the next day but one after admission he had regained some power over the external recti muscles, and the sensibility of the face to touch and pain was increased. There was gradual and steady amelioration in all his symptoms, and four months after his admission he returned to his work (tailor's cutting) quite well. The patellar tendon reflex returned about this time in both legs.

Intra-Uterine Medication.—Dr. Edward John Tilt, in a paper read at the late meeting of the British Medical Association (*Brit. Med. Jour.*, 1880, p. 470), says that intra-uterine medication should be reserved for very exceptional cases of the following forms of disease: 1. Incoercible blood-loss, resisting milder remedies and threatening life. 2. When internal metritis menaces life or reason, rather by the intensity of its reaction on the system than by the amount of purulent discharge; for insanity may sometimes be fairly attributed to an impairment of brain-tissue, due to long-protracted internal metritis. 3. When, independently of ovaritis, internal metritis leads to an aggravated combination of dysmenorrhœa and menorrhagia, menacing life or reason. 4. Membranous dysmenorrhœa of exceptional severity. 5. Habitual abortion, independent of syphilis and ovaritis, and seemingly caused by some morbid condition of the lining membrane of the body of the womb.

To Cure Fits of Sneezing.—Mr. Messenger Bradley recommends that in the incessant sneezing which so frequently accompanies a severe cold, the nostrils be plugged with cotton wool. No inconvenience results from the introduction of the pledgets, which should be sufficiently firm not to tickle, and yet sufficiently loose to breathe easily through.—*Practitioner*, 1880, p. 291; from *Brit. Med. Jour.*

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MISCELLANY.

A Queer Cause of Action.—That was a peculiar case that was lately commenced in Cincinnati by Ann Farley, a widow, against Dr. William Carson, a leading physician, to recover five thousand dollars for injuries alleged to have been caused to her feelings by reason of a post-mortem examination made of her husband by the defendant. In her complaint she alleges that her husband went to the Cincinnati Hospital to be treated for injuries which, resulting in an abscess of the liver, caused his death. The defendant, Dr. Carson, made the post-mortem examination without her knowledge or consent, by reason of which she claimed to have been injured to the extent of five thousand dollars. The court held that, as a question of law, no property right in the dead is injured by a post-mortem examination, and that there is no case in which mere injured feelings will give a right of action. The case was taken from the jury and judgment rendered for the defendant.

A Fortunate Doctor.—Dr. Willim, of Breslau, who recently succeeded in capturing the affections of the Princess Pauline of Würtemberg, is a lucky man. The king, after the mouldy fashion of those worm-eaten despotisms, reduced his fair kinswoman to the ranks by ordering her to assume the name of Fräulein von Kirbach before her marriage, and it is said that the minister who performed the ceremony condoled with the young lady on her downfall. It must have been like a scene from the "Princess Toto." "Oh, degradation!" said the king. But the princess spoke up at the altar and said she considered herself fortunate to get such a fine man.

Multiple Staining in Microscopic Investigation.—At a recent meeting of the Royal Microscopical Society, Dr. Heneage Gibbes showed transverse sections of the rat's tail, in which the bone, cartilage, nerves, tendon-cells, muscle, and blood-vessels, which had different chemical reactions, were each stained a distinctly different color; a section of a dog's tongue showed the muscle stained pink, the mucous glands purple, and the serous glands supplying the taste-organ green; and a section of the scalp showed the stem of the hair yellow, the root and follicle bright carmine, and the muscular tissue violet, with the nuclei green.

Among the recent announcements of the German medical press we note a "Hand-Book of General Therapeutics," written in the usual fashion by various prominent men, and edited by Professor Ziemssen. It will appear in seven parts, each of which may be purchased separately, the whole to cost from fifteen to eighteen dollars. The first volume will be filled with articles on diet for the sick, antipyretic methods, transfusion, hypodermic injection, etc. The work promises to be of high value to the practitioner who has a reading knowledge of the German language.

Coffee in Uterine Hemorrhage.—In uterine hemorrhage Dr. Després uses strong coffee, of which he makes his patients take four or five cups daily. He attributes to it properties analogous to those of ergot, and employs it under the same conditions.

We are happy to announce the appearance of a new edition of Prof. James Tyson's "Guide to the Practical Examination of Urine." It has been corrected and completed in all points, so that it may be relied upon as containing all the latest information upon the subject. It is published by Lindsay & Blakiston.

At a recent meeting of the Paris Academy of Medicine it was announced that the widow of the late Professor Louis had left by will a sum sufficient to found a triennial prize of eight thousand francs. This is to be awarded for work in therapeutics.

An amusing book has just been published by a French physician in the form of a novel, entitled "Impressions et Aventures d'un Diabétique à travers la Médecine et les Médecins."

The oldest inhabitant of Warsaw has just died, at the age of 118. His funeral was attended by two hundred and thirty-five descendants.

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OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 2 TO MAY 15, 1880.

King, Wm. S., Lieutenant-Colonel and Surgeon.—His leave of absence on account of sickness still further extended six months on account of sickness. S. O. 101, A. G. O., May 7, 1880.

Woodward, J. J., Major and Surgeon.—To proceed to Europe under special instructions to be communicated by the Surgeon-General of the Army. After completion of the duties assigned him, to return to his station in Washington, D.C. S. O. 105, A. G. O., May 12, 1880.

Wood, M. W., First-Lieutenant and Assistant-Surgeon.—Granted leave of absence for six months, and at expiration thereof to comply with Par. 1, S. O. 74, c. s., A. G. O. S. O. 97, A. G. O., May 3, 1880.

Gray, W. W., First-Lieutenant and Assistant-Surgeon.—Assigned to temporary duty at Fort Point, Cal. S. O. 55, Division of the Pacific and Department of California, April 27, 1880.

McCreery, George, First-Lieutenant and Assistant-Surgeon.—Assigned to duty at Fort Apache, A. T., as Post-Surgeon, relieving Assistant-Surgeon Walter Reed, U.S.A. S. O. 48, Department of Arizona, April 16, 1880.

Schué, E. D., First-Lieutenant and Assistant-Surgeon.—Assigned to duty as Post-Surgeon at Fort Grant, A.T. S. O. 48, c. s., Department of Arizona.

Cochran, J. J., First-Lieutenant and Assistant-Surgeon.—Assigned to duty at Fort Lewis, Col. S. O. 94, Department of the Missouri, April 28, 1880.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JUNE 5, 1880.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON PARESIS, SPONDYLITIS COLLI, AND HEMIPLEGIC EPILEPSY.

BY EDWARD C. SEGUIN, M.D.,

Clinical Professor of Diseases of the Mind and Nervous System in the College of Physicians and Surgeons, New York.

Reported for the *Philadelphia Medical Times.*

PARESIS: WITH EXTRAORDINARY ATAXIC MANIFESTATIONS.

GENTLEMEN,—Some of you will perhaps recollect this man, who was at the clinic three weeks ago to-day, and then presented one of the most extraordinary exhibitions of ataxic disturbance that it has ever been my lot to witness. He stated that for over two years he had been growing weaker and weaker, and you will remember that he was apparently suffering from a sort of partial paralysis, with the most marked jerking movements of both the upper and lower extremities. He could only walk at all with the assistance of a stick, and then in a very imperfect manner, and the mere act of closing the eyes brought on the most extravagant ataxic movements. This, I told you, was not the disease known as true locomotor ataxia, but the irregular form of ataxia which is sometimes met with in paralysis.

As the patient goes through a few movements which he attempted three weeks ago, you will observe how very marked has been the improvement in his case. To-day he can stand perfectly well on one foot, while, when he was here before, this was utterly impossible, and the attempt to do so, with the eyes closed, was attended with the most extraordinary motions of the body. The same was true of the attempt to put the hand to the nose, while to-day he can perform this and similar actions perfectly, and without the slightest manifestations of ataxia being excited, although the eyes are kept shut. Before, even with the aid of a stick, he could not walk the shortest distance without marked staggering in his gait, but now this has entirely disappeared. Indeed, there seems at present to be nothing abnormal about him, so far as any ataxic symptoms are concerned, —no loss of co-ordinating power whatever.

When he was at the clinic the first time, we found that his strength was materially reduced on the left side, as compared with the right. Let us see how this is to-day. Two tests with the dynamometer give respectively 35 and 33 with the instrument held in the right hand, and 18 and 19 in the left. We see, therefore, that the paresis has not passed away. Both hands are evidently quite weak, and the left is at most not more than half as strong as it should be normally. You may have noticed that when the patient was trying the power of his grasp with the dynamometer, the effort gave rise to slight jerking movements, and this is the first evidence that we have had to-day, therefore, of any ataxia at all.

The treatment here has been a very simple one, nothing but galvanism being employed. A tolerably weak battery of thirty elements has been used for the purpose, the positive pole being applied near the coccyx, and the negative at the back of the neck, so as to have an ascending current pass all along the spine. This application, which was kept up for only five minutes at a sitting, has been made nine times altogether within the last three weeks, and now you see the marvellous result, or at least the apparent result. Whereas three weeks ago the man was the subject of such terrific ataxic co-ordination that I greatly wondered at it, we now find that it has entirely disappeared; and I am still more amazed that this should be the case. He has been taking various remedies for a long time, but says that since he was first attacked he has never before been anything like so well as he is to-day. Even when tried by the most delicate tests, his power of co-ordination is, in general, now quite steady; so that his condition seems quite normal, as far as that is concerned. In connection with the paresis, it is well to note that the tongue when protruded deviates to the right and exhibits marked vibratory tremor.

The improvement has been so extraordinary in this case that I am led to suspect that there may possibly be malingering here. There are two reasons for such a supposition: *first,* because only three weeks ago the ataxic movements were so marked as to be almost unique; *secondly,* because spinal galvanism, the apparent means of relief here, has previously always proved wellnigh useless in my hands. I have tried it time and time again in similar cases, but never before with any satisfactory results. I have read of such instances, but have never until now met with one in my own experience. Enthusiastic electrotherapeutists are apt to claim too much for the method of treatment that has been employed here. I have, undoubtedly, seen patients improve while undergoing a course of spinal galvanization; but whether the improvement was really due to that or not seems to me to be an open question. These ataxic symptoms in cases like this are ordinarily the most rebellious of all to treatment; so that I have come to regard them as almost altogether hopeless. Still, I cannot see what possible motive the man can have for malingering, and it may be a genuine case of improvement under electrical treatment, after all. At all events, we will have him carefully watched, and will also endeavor to find out something more about his past history, if possible.

SPONDYLITIS COLLI, WITH PROBABLE INFLAMMATION OF THE TEMPORAL MUSCLES.

The next case, which is one of considerable rarity at a clinic like this, has also been before you, and you will, perhaps, remember that the symptoms are rather obscure. From the fact, however, that the man could not move the head freely, and that when he brought the weight of his body down on the heels with a jarring motion it gave him pain, we decided that he was probably suffering from spondylitis colli. This diagnosis, I am happy to state, was afterwards confirmed by Dr. Shaffer, the orthopædic surgeon, who provided him with a suitable mechanical support, which at once gave him great relief. To-day I bring the patient again before you for the purpose of calling your attention to a complication which has since occurred in the case, and that is a tumor of some size in the right temporal region, which prevents him from opening his jaws. I do not know precisely what this is, but I should judge it to be the result of deep-seated inflammation of the muscles in this locality. There is, however, no sense of fluctuation whatever in the swelling. Now, here is a false anchylosis of a joint produced from stoppage of function by reason of pain, which, as the old writers used to say, is Nature's method of keeping inflamed parts at rest until recovery takes place. The man denies having had syphilis, but still I am going to see what will be the effect of iodide of potassium here. I must confess that I can hardly see the connection between the disease in the vertebræ and the trouble now present in the temporal region, unless the latter may, perhaps, be due to the general diathesis.

HEMIPLEGIC EPILEPSY.

Our next patient is a boy nine years of age, who, according to his mother's account, "has fits on one side." The first of these seizures occurred when he was five years old, previous to which time he was a perfectly healthy child. This was a shaking fit all over the body, or, as we should say, consisted in universal spasm, occurring without any premonition, and followed by unconsciousness for a short time. As far as can be made out, the boy had had no blow or fall, nor had he had any preceding illness whatever.

During the next two years he had five or six similar attacks every day, and they gradually became confined more and more exclusively to one side of the body,—the left.

This is a very interesting history, and the case is the third or fourth of hemiplegic epilepsy that I have been able to show you during the present course. In this instance, the face, I learn, is affected, as well as the limbs, and the attacks are all of the same type, which is an unusual circumstance. Generally there are several varieties, ranging from *petit mal* to *grand mal*. Then the seizures usually occur early in the morning, and arise in the left groin. The spasms are first seen in the left leg, after which they extend to the arm. The face is turned towards the left, and as soon as the spasm reaches this part consciousness is lost. After the fit the boy is inclined to sleep. The mother states distinctly that he never bites his tongue or froths at the mouth; nor does he ever fall, as he has time to call out for assistance before losing control of himself. In this case there is no apparent palsy or dementia. The patient, as you see, walks in a perfectly natural manner, and the grasp of both his hands is firm. The tongue does not deviate to the right or left when protruded, and there is no facial paralysis discoverable. Moreover, the child seems to be well developed in every way; and this is a good case to illustrate the fact that motor epilepsy does not produce mental impairment.

At present he has several attacks each week, and during yesterday morning alone he had no less than three. Here, then, is a boy who has had an immense number of fits during the last four years, and yet remains perfectly bright and active. His intelligence I should say was fully as good as that of the general average of boys of his age. There is much greater impairment of mental vigor in the variety of epilepsy which we call *petit mal* (where there is vaso-motor disturbance), which parents frequently scarcely notice at all, and also in the mixed form of *petit mal* with motor epilepsy. This case reminds me of one that I had five or six years ago, in which the aura originated in the left thigh in the most distinct manner, and so slowly that the patient could sometimes stop the further development of the attack by making firm pressure upon the thigh. If he was not able to do this, the seizure ended in general convulsions. The case was very amenable to treatment, and for the last two years that the patient was under observation he remained entirely free from the trouble. At the end of that time I unfortunately lost sight of him.

Now, where is the cerebral lesion located here? In the right hemisphere, in the sensory region of it. The sensory portions of the brain are cortical, and the aura in epilepsy is a sensation referred from the cerebral lesion to the extremity of some sensory tract. In many cases of so-called ovarian epilepsy there is no disease whatever of the ovary, the real lesion being in the brain, while the ovary, being situated at the peripheral end of a sensory tract, is merely the seat of the aura. There are many of these sensory tracts extending from the brain to various portions of the body. If instead of being in a sensory the lesion ran in a motor region,—as, for instance, in the neighborhood of the fissures of Rolando and Sylvius,—we should have paresis or distinct paralysis, and yet a long period of time would not elapse between the commencement of the aura and the onset of the spasms.

As to the nature of the lesion it is impossible to speak with any definiteness. Whether there is a tumor here, or lesions resulting from meningeal or parenchymatous inflammation, we cannot say. The trouble may have been induced by a fall which has been overlooked by the parents, and which has set up inflammatory action. This is not infrequently the case, no matter how carefully a child may be watched and attended.

The treatment here will be the routine course which we ordinarily pursue in epilepsy. If we had found that the boy had phimosis or an adherent prepuce, or if there had been present a cicatrix about the cranium, or anything, in short, to show a source of peripheral irritation, we would direct our attention to that first. But after a careful examination here we can discern nothing abnormal externally about the boy; and we can only treat him, therefore, on general principles. It will be best to give him simply a sufficient quantity of the bromides to produce and keep up a mild bromism. The absolute cure of this kind of epilepsy is a thing which we *hope for*, but which we do not encourage our patients to expect. In the present instance I do not believe there is the slightest chance of curing the patient, for I should have been much more hopeful if I had been able to discover some peripheral source of irritation which it might have been possible to remove.

The bromides are not given in an entirely empirical manner, however, and Brown-Séquard showed that counter-irritation at the seat of the aura is often of the greatest benefit in addition to them. This serves to transmit to the seat of disease in the encephalon a sensation which may counteract the one proceeding from the latter. Blisters, setons, and the tourniquet or other species of ligature are the forms of counter-irritation usually employed. The aura acts as a flag or signal to show us the location of the trouble in the brain, and it often enables us to designate this with considerable exactness. It is supposed by the public (and indeed by a very large number of the profession also) to be the starting-point of the epileptic seizure; whereas the truth is that the irritation starts in the brain, at the seat of the lesion present, and travels along some sensory tract to the point where the fibres constituting the latter terminate in the periphery. In the treatment of the disease a medicinal or some form of artificial irritation is substituted, as it were, for the existing morbid irritation,—a kind of interference which is frequently practised in other departments of medicine; as, for instance, in the use of cathartics under certain circumstances. In the present instance I shall therefore prescribe frequent blistering of the groin. The blisters employed should be small in size (say about as large as the end of the finger), so as not to interfere with the patient's walking, and should be repeated every second or third day.

THE GENERAL TREATMENT OF EPILEPSY.

The remainder of my hour I shall devote to an exposition of the treatment to which I usually resort in epilepsy. It is in general a routine treatment, and yet it is also as rational as I can make it. In the first place, I use only one formula, in order that I may keep an exact record of the quantity of the bromides that is taken in each case that comes under my care. This gives me a standard for all, and enables me to compare readily the quantity of bromides taken by different patients. My first solution is the following:

℞ Ammonii bromidi, ℥ss;
Potassii bromidi, ℥j;
Aquæ, f℥vii.—M.

The result of my experience shows that simple water is best for our bromide solutions. I never employ any elixirs or syrups, for patients soon tire of them, and, as a rule, greatly prefer the saltish taste to salt mixed with sweet. In my second solution I substitute bromide of sodium for bromide of potassium, as it seems to suit some patients better than the latter. In my third solution, which I have used during the past two years only, I substitute chloral for bromide of ammonium in the above, and this prescription I find is excellent for a certain class of cases. Allowing seven teaspoonfuls to the ounce, it is seen that in the first mixture one teaspoonful contains ten grains of bromide of potassium and five grains of bromide of ammonium; in the second, ten grains of bromide of sodium and five grains of bromide of ammonium; and in the third, ten grains of bromide of potassium or sodium and five grains of chloral: that is, in every instance, one teaspoonful of the mixture contains fifteen grains of "anti-epileptic." It is generally necessary to produce mild bromism; but severe bromism is very injurious. It is always a delicate matter to steer between the two extremes of too little and too much bromide, and it ordinarily takes me from one to three months to fix upon the proper dose in any given case. Hence I invariably refuse to treat out-of-town patients for epilepsy unless they consent to remain in New York for at least a month after the treatment is commenced. You will find the most marked difference in individuals in regard to the toleration of the bromides. Thus, in a lady whose case I now recall, thirty grains a day produced a most profound effect; while, on the other hand, I have known a baby, only a few months old, to take seventy grains a day and yet exhibit no signs of bromism. At present there is a gentleman under my care who is taking one hundred and sixty grains of bromides in the twenty-four hours without the slightest inconvenience. In order to determine the effect of the bromides, we must observe (1) whether the intellectual faculties show a tendency to become sluggish and dull, and (2) whether the muscles have lost tone, which produces a change in the physiognomy. A delicate test of bromism is that discovered by Voisin, viz., the irritation of the fauces and soft palate with a spatula or brush, as the disappearance of this reflex is a very constant sign of bromism. It should never be omitted. Voisin claimed that when this point was reached we need go no farther; and this is a good general rule, though it has its exceptions. In some cases the attacks return from time to time, notwithstanding this evidence of bromism.

The eruption of acne is looked upon by the patient and friends as a very important sign of bromism, but not by the physician. It is really due to some peculiarity of the individual when it occurs, and varies very greatly in severity and in location in different patients. The shoulders, neck, and face are the regions that are most apt to be affected. In some cases the acne becomes troublesome long before doses sufficiently large to control the epilepsy are reached; but the gentleman who is taking one hundred and sixty grains of bromides a day scarcely suffers at all from it. More serious effects of bromism are those such as paresis and impairment of intellect; but it is never necessary to push the remedies to this excess, and when such results are seen it is generally in cases where the patients have gone on taking large quantities of bromides after they have given up medical advice. It is very seldom, however, that morbid bromism is produced in the treatment of epilepsy, if proper caution is observed.

The time that it is necessary to keep up the use of the drugs is a subject that is still under discussion. Some authorities are content with one year; but I confess that my experience has led me to be rather an extremist in the other direction, so that I now hold that the patient should not give up their use until he has been three years without, not a fit, but any epileptiform manifestation whatever, however slight. I am supported in this regard by Brown-Séquard and Voisin, who place the limit at from three to five years. I have seen cases where the patients have left off taking the medicine at the end of two years, and then had a return of the trouble. You will often be importuned by the patient and his friends to allow him to give up; but you must be firm in insisting upon the continuance of the course of treatment. It is very seldom, however, that we can prevail upon patients to keep it up for three years after the attacks have entirely ceased; but when the latter have returned, they are apt to come back to us in great penitence.

The time in the day for the administration of the bromides is a most important factor in success in treatment. For a time I followed Brown-Séquard in his practice of giving the greater part of the necessary quantity at bedtime, on account of the fact that in the immense majority of instances the attacks occurred between bedtime and 8 or 9 A.M. Of late, however, it has been found of advantage to modify this rule, and my plan is now to give the greatest amount just before the time that the attacks are wont to occur, whenever that may be. In the case now before us, we can go upon Brown-Séquard's old rule; and I propose, indeed, to order only one dose of the bromide mixture in the twenty-four hours, for the reason that the patient never has any fits now except early in the morning. At first he should take two teaspoonfuls at bedtime, and the dose should then be gradually increased until a small amount of bromism is produced. It is best to give it on an empty stomach, and I think we are much less likely to have acne produced if we use alkaline instead of simple water for our mixture. Hence I employ Vichy with those who can afford it, and a solution of bicarbonate of sodium among the poor.

In conclusion, I will mention the manner of giving the bromides in different cases, it being understood that the patient in each instance is an adult:

(1) When the attacks occur at night or early in the morning, we might give one teaspoonful of the mixture before each meal, and then at bedtime.

(2) When the attacks vary as to time, we might give two teaspoonfuls in the morning, one before supper, and two or three at bedtime.

(3) When the attacks are more liable to occur in the daytime, we might give three or four teaspoonfuls in the morning, one before supper, and two or three at bedtime.

(4) In the nocturnal form we would give three or four teaspoonfuls at one dose, either at bedtime or early in the evening. The gentleman who is using one hundred and sixty grains of bromides a day takes six teaspoonfuls in the morning and five at night.

ORIGINAL COMMUNICATIONS.

ON THE THERAPEUTIC ADVANTAGES OF ADMINISTERING IODIDE OF POTASSIUM DURING FASTING: WITH SOME REMARKS ON INTERSTITIAL HEPATITIS WITH ENLARGEMENT OF THE LIVER.

BY JOHN GUITÉRAS, M.D.

A VERY generally accepted notion is that cirrhosis of the liver depends upon a cicatricial contraction of the organ, preceded by a stage of swelling. And yet, if we look back upon what we have seen of diseases of the liver, we will probably find not one single fact illustrative of this metamorphosis. Indeed, it is by no means certain that cirrhosis of the liver is preceded by a general enlargement of the organ, or, in other words, that the cirrhotic interstitial hepatitis is preceded by a general hyperplastic hepatitis. Nor, on the other hand, do I find any proof that the latter is ever followed by contraction of the organ. Indeed, Charcot says,* speaking of "hypertrophic cirrhosis" or "hépatomégalie," "It seems probable that in this form of the disease the volume of the organ never suffers any appreciable contraction, because the measurements of weight given above [2850 and 2920 grammes] refer to cases of seven and four years' standing. However, we must speak of this matter with reserve."

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* Leçons sur les Maladies du Foie, etc., p. 205 et suiv. Paris, 1877.

We can say, at any rate, that this metamorphosis is by no means common, and that we should not consider this sequence of events as a well-established fact, but, on the contrary, let it be understood that there is no more obscure question in the whole domain of hepatic pathology.

That the individual bands of fibrous tissue that are found in a cirrhotic liver have been preceded by groups of embryonal connective-tissue cells there can be no doubt; it could not be otherwise. But this does not signify that the small, puckered organ is preceded by a large, swollen one.

Indeed, it seems to me that the converse of this may take place. I remember the case of a driver of a physician of this city who was admitted to the Philadelphia Hospital with symptoms of cholæmia; he had also fever, and a very large liver of uneven surface. He died a few hours after admission, and the diagnosis of *first stage* of cirrhosis (enlargement) passing into the *second* (contraction) was apparently confirmed by the autopsy. As I look back upon this case I see a fundamental error in my appreciation of the symptoms. These were acute. The man had been working up to within a short period of time before his death, and nothing had attracted attention to his liver. And now, when at the autopsy we find an enormously swollen liver, crossed here and there by dense fibrous bands, it requires, indeed, all the force of preconceived notions to say that the acute symptoms and rapid death are due to a pathological process which is essentially slow and latent,—namely, cicatricial contraction. Is it not much more reasonable to suppose that this man had a contracted liver, congenital or acquired; that this was not in him a progressive disease, but that it made matters so much worse that the liver could not carry on its functions when an acute interstitial hepatitis came, as an accident, upon this already lame organ? I have yet to see the report of a single case of this kind in which this conclusion does not seem more appropriate than the other.*

This much at least we must admit, with other observers,—that there is one form of diffuse, interstitial, hyperplastic hepatitis which is to be considered, clinically, as a disease distinct from ordinary cirrhosis. It may develop more or less acutely. It shows no tendency to resolution, but may continue for years, causing death finally by disturbance of the hepatic functions. This disease has not received sufficient attention at the hands of American writers upon medicine. For this reason have I introduced these remarks, and I would further refer the reader to the description by Charcot (*loc. cit.*), and to the report of a case presented by myself to the Pathological Society of this city.†

Dr. William H. Heath, former resident physician at the Philadelphia Hospital, assisted me in keeping a record of the following case, which was of the same nature.

Case I.—Chronic interstitial hepatitis with enlargement—Jaundice—Fever—Good effects of treatment by iodide of potassium in large quantities of water taken during fasting.

Mrs. D., æt. 45, was admitted to the Philadelphia Hospital April 5, 1878. Married and with children. Family healthy, and there seems to have been no tendency to hepatic disorders. She had always been a healthy, temperate, and hard-working laundry-woman. She menstruated regularly. She never had malaria. In September of 1877 she began to have symptoms of dyspepsia and to lose flesh. She continued in this condition until the time of admission, having at intervals attacks of pain in the right hypochondrium, vomiting, and fever, but no jaundice. The bowels were usually constipated.

After admission she was confined to bed for six weeks. The attack commenced with a chill. She had some fever every day. There were pain in the hepatic region, constipation, and jaundice. The urine contained bile-pigment. The perspiration was profuse, and stained the bed-clothing. The stools obtained by cathartics were generally light-colored, though quite changeable in this respect, as they continued to be throughout her illness. Neither at this time nor subsequently were gall-stones found in the fæces. The liver was decidedly enlarged.

After this attack the jaundice became permanent, and up to the 24th of September she had three similar seizures. Upon this date she had an intense chill in the evening, and the temperature rose to 104°. The pulse was bounding, and 140 to the minute. She had nausea, vomiting, and intense headache. The pain in the liver was such as to make her cry out. In four hours the temperature had returned to the normal, after a moderate sweat.

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* See, for instance, in Appendix to Clinical Lectures on Diseases of the Liver, by Murchison, 1877.

† Trans. Path. Soc. of Phila., vol. viii., 1879.

September 25.—Temperature 98°. There was some pain in and considerable tenderness over the liver, but not circumscribed to any one spot. During the night she had taken calomel and morphia, and large poultices had been applied over the liver. To-day she was ordered large doses of sodium bicarbonate, and compresses of solution of chloride of ammonium were kept over the liver. The jaundice had increased. It is described in my notes as "moderate, and much more marked in the face and trunk than in the extremities." About the face there was always a reddish hue.

The note as to the size of the liver which I dictated on the 27th is more complete than previous ones, and shows a slight increase of the enlargement. It is as follows: "There is no distention of the gall-bladder, nor any evidence of the presence of gall-stones. The abdomen is large, flabby, and more prominent on the right than the left side. In the perpendicular line of the nipple the area of hepatic dulness extends from the fourth rib to the level of the umbilicus. In the vertebral gutter the dulness extends from the ninth interspace to the area of renal dulness. The surface of the organ is smooth to the touch; its consistence is not very hard, but the sharp edge of the organ can be easily followed along the lower boundary of the area of dulness. The spleen is somewhat enlarged, but the kidneys, heart, and lungs are healthy. She has often complained of yellow vision. The urine contains bile-pigment." This was always the case.

October 3.—A chill at 10 A.M. Temperature rose to 105°; fell to $97\frac{4}{5}$° before 5 P.M., and it remained normal until the 7th, when it rose in the evening to 102°. On this date the jaundice became intense, involving equally the extremities and the trunk and face. The bowels were costive; the tongue was dry, dark, and fissured. Opium, calomel, and ipecac were administered, and the poultice was again applied. For a day or two afterwards she took ipecac and bicarbonate of sodium. As will be seen by the chart, she continued having some fever every day for about five weeks, but the other symptoms improved considerably during the first week, and then remained stationary, as was always the case after these attacks.

Oct. 2, M., $97\frac{2}{5}$°; E., $98\frac{3}{5}$°. Oct. 3, M., 105°; E., $97\frac{4}{5}$°. Oct. 4, M., $97\frac{2}{5}$°; E., $97\frac{2}{5}$°. Oct. 5, M., $97\frac{2}{5}$°; E., 99°. Oct. 6, M., $97\frac{1}{5}$°; E., $98\frac{4}{5}$°. Oct. 7, M., $99\frac{1}{5}$°; E., $102\frac{2}{5}$°. Oct. 8, M., $97\frac{3}{5}$°; E., $97\frac{3}{5}$°. Oct. 9, M., 98°; E., $100\frac{2}{5}$°. Oct. 10, M., $97\frac{2}{5}$°; E., $98\frac{2}{5}$°. Oct. 11, M., 97°; E., $100\frac{3}{5}$°. Oct. 12, M., $97\frac{4}{5}$°; E., $99\frac{2}{5}$°. Oct. 13, M., $97\frac{4}{5}$°; E., $98\frac{4}{5}$°. Oct. 14, M., 98°; E., $99\frac{2}{5}$°. Oct. 15, M., $98\frac{1}{2}$°; E., $99\frac{1}{2}$°. Oct. 16, M., 97°; E., $98\frac{4}{5}$°. Oct. 17, M., $97\frac{1}{5}$°; E., $99\frac{4}{5}$°. Oct. 18, M., $99\frac{1}{5}$°; E., $100\frac{1}{2}$°. Oct. 19, M., $98\frac{1}{5}$°; E., $99\frac{2}{5}$°. Oct. 20, M., $97\frac{4}{5}$°; E., $100\frac{2}{5}$°. Oct. 21, M., 97_5°; E., $101\frac{1}{5}$°. Oct. 22, M., $97\frac{1}{5}$°; E., $100\frac{4}{5}$°. Oct. 23, M., 97°; E., $98\frac{1}{2}$°. Oct. 24, M., $97\frac{2}{5}$°; E., $100\frac{2}{5}$°. Oct. 25, M., $98\frac{3}{5}$°; E., 101°. Oct. 26, M., 97°; E., $99\frac{2}{5}$°. Oct. 27, M., $97\frac{2}{5}$°; E., $100\frac{1}{2}$°. Oct. 28, M., $97\frac{4}{5}$°; E., $99\frac{2}{5}$°. Oct. 29, M., $97\frac{4}{5}$°; E., $99\frac{1}{5}$°. Oct. 30, M., $97\frac{2}{5}$°; E., 100°. Oct. 31, M., $97\frac{1}{5}$°; E., $100\frac{1}{2}$°. Nov. 1, M., $96\frac{4}{5}$°; E., $99\frac{2}{5}$°. Nov. 2, M., $97\frac{1}{5}$°; E., $98\frac{2}{5}$°. Nov. 3, M., 98°; E., $99\frac{4}{5}$°. Nov. 4, M., $97\frac{2}{5}$°; E., 100°. Nov. 5, M., $97\frac{3}{5}$°; E., 100°; Nov. 6, M., $97\frac{2}{5}$°; E., 98°. Normal.

The treatment employed during the acute exacerbations has been mentioned. In regard to the continued treatment, it may be said that chloride of ammonium, mercurials, alkalies, and acids were employed at different times. After the attack of the 24th of September she was given nitrate of silver,* which drug she took for seventeen days without any improvement.

October 18.—All treatment was discontinued, and she was ordered twenty grains of iodide of potassium to be taken daily, in one pint of water, between 6 and 9 A.M. At 9.30 she was allowed to take her breakfast. After this date the appetite improved, the skin cleared up, the tenderness of the liver diminished, and it became, indeed, difficult to keep the patient in bed and to restrict the diet, though, as may be seen in the temperature sheet, the fever persisted. On the 1st of November it became evident that the liver was diminishing in size. On the 6th the temperature was normal in the evening, and continued so. She commenced now to gain flesh rapidly. The dose of the iodide was diminished to ten grains. On the 20th the liver was found to be of normal size. The drug was discontinued. About a year afterwards she was still enjoying perfect health.

I regret that no quantitative analysis of the urine could be made. It seems to me that the curious febrile storms that are met with in these cases will be found to be connected with disturbances of the hepatic functions; and the quantity of urea in the urine will be an index to these disturbances.

If the temperature of this case is projected upon a chart, it will be seen that there is a marked regularity in the curve made by bringing together the points of daily exacerbation. It will be found that this line is made of regular waves, consisting of two great exacerbations alternating with two small ones. This principle governs also the temperature-curve of the case reported by myself to the Pathological Society, though in this one there was a certain uniform irregularity which caused the exacerbations to occur as often in the evening as in the morning. In the present case they occur regularly in the evening. I believe that the course of the temperature, independently of other facts, is sufficient to distinguish this from malarial and pyæmic fevers.

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* See "A Contribution to the Clinical Study of Catarrhal Inflammation of the Bile-Ducts, with Remarks on the Use of Nitrate of Silver in its Treatment, by Dr. William Pepper." Trans. of Med. Soc. State of Pennsylvania, 1878.

Case II.—Gall-Stones—Administration of iodide of potassium during fasting—Recovery.

Mr. G., a Cuban, æt. 30, was a temperate man, and had never had syphilis. Had resided five years in this country. In October of 1877 he commenced to suffer with dyspepsia. During December of the same year and January of 1878 he had two severe attacks of biliary colic. I saw him first on February 15. He had then another attack of colic, which was followed, like the preceding one, by the passage of a small, round calculus. This consisted mainly of cholesterine and pigment. In the intervals between these attacks he continued dyspeptic, and had slight jaundice. After the last one the latter symptom became more prominent. There were constant dull pain in the liver and tenderness over the region of the gall-bladder. The liver was slightly enlarged. The patient took to his bed, emaciated rapidly, had some fever, and frequent vomiting.

This patient had inflammation of the larger biliary tubes, produced by the passage of stones through the common duct. And this inflammation was kept up by the same unknown cause which so modified the secretion of bile as to give rise to the formation of calculi. The treatment consisted of rest in bed and careful restriction of diet. He was given principally skimmed milk and raw eggs, the latter being a form of food for which he had always had a predilection. Besides this he took Carlsbad water in the morning before taking food. On March 9 his condition was still the same. I ordered fifteen grains of iodide of potassium, to be taken fasting every morning in a glass of water. On March 14 the patient asked for more food. The vomiting had ceased, and the stools were regaining their normal color. On the 25th the fever and the jaundice had entirely disappeared. The dose of the iodide was reduced to five grains, and was finally discontinued early in April. Towards the end of the month he returned to Cuba, and has since enjoyed good health.

*Case III.—Commencing cirrhosis of the liver—Subacute catarrhal jaundice—Treatment by iodide of potassium.**

J. L., æt. 65, had always been a healthy man, but a hard drinker. Never had syphilis. Admitted to my wards in the Philadelphia Hospital in October of 1877, with jaundice of one week's duration. Had had dyspeptic symptoms for a month. The notes taken at the time of admission read as follows: There is marked jaundice and itching of the skin. The urine contains bile-pigment. The stools are clay-colored. There are languor and drowsiness, but no fever. The dyspeptic symptoms are marked. The liver is diminished in size. There is neither pain nor tenderness. Heart, lungs, kidney, and spleen are normal. There is no atheroma, and but little emaciation. He was ordered bicarbonate of sodium and ipecac. The patient continued losing flesh and strength, and the jaundice fluctuated irregularly. Occasionally he had diarrhœa, and then bismuth was given in place of the soda. He also took regularly tincture of serpentaria. On the 19th of November the treatment was changed to strychnia, nitro-muriatic acid, and serpentaria. This was discontinued on December 4, and he was ordered twenty grains of iodide of potassium in a pint of water, to be taken, fasting, every morning. On the 19th the symptoms of gastric dyspepsia and the jaundice had improved decidedly, but the treatment was discontinued on account of diarrhœa. The improvement, however, continued under the use of a bitter tonic, and he was discharged well on the 26th.

This patient stopped drinking after his discharge, and I saw him some months afterwards in very good health.

I have also the histories of two more cases. They commenced as cases of acute catarrhal jaundice. Generally, I give at this stage bicarbonate of sodium and ipecac, than which combination, I take it, there is no more powerful cholagogue; and it possesses the advantage of not producing arterial excitement of the gland. It may be given conveniently in wafer-capsules—half a grain of ipecac and ten grains of the sodium salt—every two hours. It may be necessary to diminish the quantity of ipecac, or to administer with it some tincture of serpentaria, which seems to prevent the vomiting. Another drug, which probably has a powerful action upon the secretion of bile, is water. I give it freely in these cases. In Cases IV. and V. this treatment was followed by the use of nitrate of silver. In Case IV., a large, powerful man, I commenced the use of iodide of potassium in doses of twenty grains, to be taken in a pint of water, during fasting, towards the end of the second month of the disease. The first effect, after the coryza which followed upon the second dose, was the improvement of the appetite, and subsequently the gradual subsidence of the dyspeptic symptoms and the jaundice. This patient was discharged from the hospital almost well after two weeks of this treatment.

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* The notes of this case were taken for me by Dr. John Musser.

Case V.—A woman, 33 years old, had had jaundice for twelve weeks. During the last two weeks she had been improving slowly under the use of nitrate of silver. It seemed to me that her recovery was very much hastened by the use of iodide of potassium in ten-grain doses every morning.

I have also used this plan of treatment in ordinary cirrhosis. I believe that a more continued study of such cases will prove it to be advisable. When the cachexy of cirrhosis is present, I have avoided it. But in other cases I am in the habit of interrupting other forms of treatment, occasionally, for a week or ten days, during which time I administer the iodide of potassium.

The iodide administered in this manner shows no tendency to disturb digestion. It should be remembered, however, that the whole quantity should not be taken at once. I generally dilute ten or fifteen grains of the salt in a pint of water, and direct the patient to take it at his convenience during the morning, and to breakfast half an hour after the last dose. It may be administered in wafers, insisting at the same time upon the use of water in large quantity.

There are two circumstances that probably make the iodide more active when given in the manner I have mentioned. In the first place, the vascular excitement of the liver is at this time at its lowest ebb, and it is probable that the drug remains for a longer time and in larger quantity in the organ; and, secondly, it does not come to the liver diluted in the large quantity of albuminous fluid of an active and loaded portal circulation. If iodide of potassium has any absorbing power over young inflammatory connective tissue, it may be said that, if taken fasting, it will have the same chances for good that alcohol has for evil when taken under the same circumstances. Further than this, it is probable that water, by promoting secretion, assists greatly the alterative action of the drug. It has been suggested by Frerichs and others that water is perhaps the most important element in the mineral waters.

There are two classes of cases in which the last-mentioned action of the drug is of special value,—namely, atheroma and rheumatism. It has been proven that deficient elimination, and the consequent charging of the blood with imperfectly oxidized nitrogenous products, is the principal cause of atheroma.* It is probable that one of the most important functions of the liver is to contribute greatly to the destruction and elimination of these albuminous matters.† In cases, therefore, of incipient atheroma, with high blood-pressure, flat-topped pulse-wave, and accentuated second sound, I have given the iodide in five- or ten-grain doses in half a pint or one pint of water during fasting. A continued and repeated observation of such cases is necessary to pronounce positively upon the advantage of any treatment. I believe, however, that this method of exhibiting the drug will be found more advantageous than the diuretic mixtures containing iodide of potassium recommended by Fothergill. I think that these are more apt to disturb digestion.

Finally, I always use the drug during fasting, in cases of chronic rheumatism. I find in my ward-books the histories of five cases which were supposed to be rebellious to treatment. In all of them the iodide had been administered in the form of Zollickoffer's mixture, which contains also colchicum and guaiacum. My notes show that these patients did better when they took the drug in the morning with large quantities of water, though the total amount taken in the twenty-four hours was less. They had been taking from fifteen to thirty grains, and I never gave them more than fifteen.

Some experiments in the laboratory might throw some light upon this subject:

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* For a further development of this point, see Dr Fothergill's letter to the Phila. Med. Times of August 7, 1875.

† Murchison, Functional Derangements of the Liver.

I. To find out the amount of iodine contained in the liver at different times after the ingestion of a given quantity of the drug in two series of animals, in one of which the drug has been given during fasting, and in the other with the meals. II. To discover the time required for elimination by the urine in two contrasted series of cases. III. By means of artificial fistulæ to study the effect upon the biliary secretion of the administration of iodide of potassium in the manner specified.

THE ALCOHOLIC LIQUORS OF PHILADELPHIA.

Read before the Philadelphia County Medical Society, April 28, 1880,

BY HENRY LEFFMANN, M.D.

GENTLEMEN, — In presenting this paper, I am aware that the subject has but little more than local interest; yet, as the articles studied are sold in other cities, and are fair representatives of their class as found all over the world, I hope that the few special facts I give may be capable of some general application. The title is comprehensive enough, as far as regards the number of substances that present themselves for analysis, but I have been obliged to limit the work to the most prominent. In collecting the facts I have kept in view the medical and hygienic relations of the matter, and have endeavored to prevent the extensive consideration of the purely chemical relations. Elaborate descriptions of the methods of analysis, statements of the specific gravity, etc., are not required, and would, indeed, be out of place.

I have also endeavored to take what might be called the "practical" phase of the work. I have examined the articles actually presented to the consumer, and have not sought specially the original sources. The investigation, carried on with this object, has features not entirely scientific. To be seen slipping out of a saloon in the middle of the day carrying a large pitcher of fresh beer is in itself suspicious, and a friend accidentally encountered is apt to receive dubiously the statement that the purchase is exclusively for scientific purposes, and may request that he be allowed to assist in the analysis.

To physicians the important questions as regards liquors are as to purity and alcoholic strength. For many years the consumption of alcoholic liquors has been so extensive that what might be called the natural sources of supply have not been sufficient, and imitations, more or less complete, have been put into the market in large amount. For instance, some wines of noted or favored brands are produced in the limited amount of a pipe or two a year; yet these brands may generally be purchased in large quantity in all the principal markets of the world. The advances in chemistry have been such that these liquors can be produced more cheaply and rapidly by adding to a pure spirit either flavors and colorings identical with those contained in the original article or satisfactory substitutes for them. Much useless rhetoric and unnecessary excitement have sometimes been brought out upon this topic. Temperance advocates, not content with the sound reasons which may be produced against the use of alcohol, have sometimes attempted to frighten the community by stories of the terrible and poisonous chemicals that are put into liquor.

From what we know of the adulteration of liquors, we may, I think, conclude that no very serious injury is done by it, and that the frequently-repeated allusion to *pure liquors* as unobjectionable is without justification. The things put into the common drinks, like those put into many articles of food, are cheats rather than poisons, and I have seen no evidence to prove that Scotch whisky obtained from a scientific compounder is more death-dealing than that which really originated in the "land o' cakes."

Without entering into a chemical dissertation, it may be of interest to sketch out the general method of liquor imitation. It will be, of course, understood at once that each house has its secrets and special method, and that circumstances may modify the method employed.

The basis of many ordinary spirituous and vinous liquors is the strong alcohol known as "high-wine," and obtained by the distillation of fermented grain, especially corn. This is much above proof, —that is, contains much more than half its weight of alcohol,—and is contaminated with rough odors and with fusel oil. By the use of charcoal and redistillation, this material is made pure and nearly inodorous, and constitutes rectified spirit, or, when quite free from odor, cologne spirit. Manufacturing druggists prepare standard flavoring solutions, which are to be added in the quantity of a few drops to the above inodorous spirit. If the desired liquor is colored, some vegetable juice (cherry-juice) or burnt sugar is added. Colors of a disagreeable, or even injurious, character may be used. Aniline red, for instance, perhaps uninjurious in itself, might contain arsenic, and do harm. As illustration of these tricks of trade, I have brought with me some of the articles mentioned, with some rectified spirit, and can without delay, as you see, prepare a standard liquor. The compounder can purchase a secret preparation for giving a bead (power to hold bubbles for a time). This appears to me to contain nitro-benzole or artificial oil of bitter almonds. To avoid the expense of syrup, glycerin is used in liquors requiring "body."

Here is a sample of burnt-sugar color, and here one of aniline red which is warranted free from arsenic. This latter preparation is called raspberry color, and is probably much used for coloring the so-called raspberryades.

To show more clearly the method of making spurious liquors, I have brought with me some rectified spirit, and will mix with it a few drops of coloring solution and also of concentrated brandy essence, and by brisk agitation the mixture acquires the appearance of cognac brandy. It is, however, still imperfect, in so far as it lacks the ripeness and body which time gives to the real liquor. To supply this lack I add now some of a standard "age-and-body" preparation which the trade furnishes, and after this all we need is the label, which I now affix, certifying that the article is "very old cognac brandy," of "Otard, Depuy & Co." In practice about half a pound of each of the above articles would be added to forty gallons of rectified spirit.

It is obvious that as I am not a professional compounder the article just made would not command any sale. I simply intend to show the principle. The age of a liquor is a quality of importance, and even this may be the subject of deceit. By keeping the liquor at a moderately high temperature, effects may be produced in a few days which by the ordinary process could not be accomplished in months.

This, then, is the general nature of the vinous and spiritous liquors which are in our market. If the conditions are considered injurious, it might be a question whether in the medical use of alcohol it would not be better to rely upon the pure neutral spirit itself.

Malt liquors are important articles of consumption in this city. These are less malt liquors now than formerly, for glucose or starch is much used as a substitute for malt. Substitutes for the bitter of hops are employed. Tannin is among the substances purchased by brewers largely, and it is probably used for this purpose. The use of strychnia and picric acid as substitutes for the vegetable bitters proper is in great part imaginary.

The most important point in regard to the malt liquors is the percentage of alcohol. I have estimated this in some of the most-used malt liquors, with the following result:

Bergner & Engel . . .	5	per cent.
Bergdoll & Psotta . .	4	" "
Schlitz's Milwaukee . .	4	" "
Jacob Conrad . . .	5	" "
Bottled porter . . .	5.4	" "

TRANSLATIONS.

Therapeutic Use of Pilocarpin in Skin Diseases.—Professor Pick, editor of the *Vierteljahrsschrift für Dermatologie und Syphilis*, gives, in the first number of his journal for the current year, some account of his experience in the use of pilocarpin in certain diseases of the skin. The drug was given in the dose of 0.01 gramme ($\frac{1}{7}$ grain) in aqueous solution, morning and evening, an hour after meals, the patient being in bed or, in summer-time, walking about. Increased salivary secretion was first observed, and a few minutes later increased perspiration. In a few cases one or the other was absent. After three or four weeks the medicine seemed to lose its effect, so that a larger dose had to be given. No evil effect was noted, and in some cases the patient's general health seemed to be improved by the medicine. In psoriasis no effect whatever seemed to be induced upon the course of the disease. In acute eczema pilocarpin aggravated the disease, while in chronic eczema some advantage seemed to be gained by its use. In pruritus cutaneus, and particularly in one very severe case of pruritus vulvæ, pilocarpin acted favorably. In a single case of chronic and rebellious urticaria, pilocarpin, given in one-tenth-grain dose twice daily, resulted in a cure. In the case of a man suffering from well-marked alopecia areata of six months' standing, a two weeks' course of pilocarpin was followed by the appearance of fine, colorless lanugo, and by the end of twelve weeks the hair was restored. Other cases appeared to be equally favorably affected. In ten cases of alopecia "pityrodes" a favorable result was obtained: so that this remedy may be looked upon as a satisfactory one in cases where a strong hereditary tendency to baldness does not exist.

TROPHIC DISTURBANCES CONSECUTIVE TO FRACTURE OF THE UPPER END OF THE FIBULA.—At a recent meeting of the Société de Chirurgie (*La France Méd.*, 1880, p. 212) M. Ferrier spoke of a case coming under his observation, where fracture of the upper end of the fibula had occurred from direct violence. After the first effect of the injury had passed off, pain in the side of the foot still remained, with persistent anæsthesia in the distribution of the musculo-cutaneous. At the end of eight days marked œdema of the dorsal surface of the foot also appeared, with severe pain throughout that member. When the foot was touched the sensation was that of a red-hot iron. This condition lasted a considerable time; the skin became glossy; small vesicles formed. The patient employed hypodermic injections, which gave rise to numerous abscesses. Finally, although the fracture became completely cured, and the patient could walk without difficulty, the trophic troubles persisted.

M. Verneuil and others related similar cases.

SYPHILITIC ULCERATION OF THE BLADDER.—J. K. Proksch (*Vierteljahrsschr. f. Dermatol. u. Syph.*, 1879, Heft iv.) gives six cases from various authors, showing that, although rarely attacked, this organ is occasionally the subject of syphilitic disease. Four of the patients were men, one a child, and one a woman; in age the patients ranged from four to eighty-four. In four cases ulcers of the urethra were coexistent. The number of ulcers varied from one to eleven. In two instances the ulceration was diffuse; the size of the single ulcers was from pea- to coin-size. They were superficial or more or less deep, even to perforation. In the latter case death followed; in other instances a cure was effected. The symptomatology has not been altogether made out, but usually the affection presents the signs of cystitis or catarrh of the bladder. Proksch hopes for an increase in our knowledge of these ulcers when the vesical endoscope comes into general use.

TWO CASES OF ANEURISM OF THE PEDIC ARTERY.—Henop (*Deutsche Zeitschr. f. Chir.*, Bd. xii., Heft iv. u. 5; from *Cbl. f. Chir.*) gives one case where a walnut-sized, pulsating tumor was observed on the inner side of the dorsum of the right foot. Extirpation was attempted. Perforation had already taken place from the posterior wall of the sac. The os navicularis was eroded: the joint grated on plantar flexion of the foot. Supra-malleolar amputation was followed by a fatal result. Atheroma of the vessels was discovered post mortem. In the second case rest and elevation of the limb were followed by increasing firmness in the tumor; pulsation less marked. After firm compression with a bandage for some time, the aneurism flattened, and finally disappeared entirely.

MEDICO-LEGAL ASPECTS OF SUDDEN PUERPERAL MANIA.—M. Van Verts (*Le Mouvement Méd.*, 1880, p. 94) gives the case of a woman of 19 who was delivered in his service. Everything went well until the patient was about to be transferred to the main ward, three-quarters of an hour after her delivery, when she suddenly jumped up, threw everything topsy-turvy, and broke every article she could lay hands on. She had to be placed in a strait-jacket. Two hours later all signs of mania had disappeared. Later, very painful abscesses of the breast supervened, but no return of the mania occurred. M. Van Verts alludes to the medico-legal aspect of this case, remarking that the patient, if left to herself, might have murdered her infant had it been near her at the moment when the access of delirium occurred.

ACTION OF SUGAR, CHLORIDE OF SODIUM, ACIDS, AND ALBUMEN UPON CALOMEL.—M. Verne (*Pharmacien*) finds himself constrained, as a result of personal experience, to contradict the tradition of ages relative to the action of certain substances in converting calomel into corrosive sublimate. He mixed one gramme of calomel with two of chloride of sodium and ten of water, and exposed the mixture to a moderate heat for three days, but at the end of that time found no sublimate. Similar experiments with sugar triturated in the dry with calomel, and kept for eight to twelve days, gave negative results. Further trials with chloride of sodium, calomel, and water, and with citric acid, gave the same results. Experiments with calomel and white of egg showed, however, that non-coagulated albumen at the temperature of the human body is the reductor *par excellence* of calomel, which it transforms into protoxide of mercury to form with the latter a slightly soluble albuminate. Chloride of sodium, even when mixed with albumen and at the temperature of the human body, has no action on calomel.

ACTION OF VARIOUS DIURETICS.—Dr. Maurel gives the result of his experiments (*Bull. Gén. de Thérap.*, Nos. 5 and 6, 1880) as follows: 1. Nitrate of potassium—uncertain as to the quantity of liquid—augments the solid materials of the urine to a notable degree. The most active doses are a drachm to a drachm and a half. 2. Chlorate of potassium, less active with respect to the augmentation of solids, increases the fluids of the urine to a greater degree. 3. Acetate of potassium is uncertain, as to the quantity of both solids and fluids. 4. Iodide of potassium, far from being a diuretic, even seems to diminish the quantity of urine. 5. Salicylate of sodium—uncertain as to the quantity of liquids—increases the solid constituents of the urine. 6. Of three vegetable substances experimented upon,—squill, colchicum, and digitalis,—the latter alone is a real diuretic. It augments at the same time the quantity of both solids and fluids. Dr. Maurel gives it as his opinion that no diuretic acts when the system is in a febrile condition: this must be modified before diuresis can occur.

NEW METHOD OF STRAIGHTENING OUT SUNKEN NOSES.—Mikulicz (*Cbl. f. Med.*, 1880, p. 219; from *Wien. Med. Wochens.*), after recapitulating the usual methods employed for this purpose, and the poor results gained, goes on to suggest that, as artificial eyes when worn do not produce irritation, no reason exists why noses should not also be propped out by artificial means. Having devised a supporting apparatus composed of two halves, which are connected together, supported against the under border of the apertura pyriformis, and are invisible, he has gained admirable results, the nose being well straightened, and the apparatus giving no discomfort.

UTERINE INVERSION—METRORRHAGIA—UNSUCCESSFUL ATTEMPTS AT REDUCTION—AMPUTATION OF THE INVERTED PART BY ELASTIC LIGATURE—CURE.—Chauvel (*Cbl. f. Chir.*, No. 15, 1880; from *Bull. de la Soc. de Chir. de Paris*) had a patient of 18, who suffered from inversion of the uterus as a result of rough removal of the placenta after labor. A few days later reduction was attempted, but in vain. After the patient had suffered much loss of blood, with pain, for eight months, reduction was again unsuccessfully attempted. Amputation being decided upon, Chauvel compressed the cervix tightly with the écraseur, made a deep gutter around it with the thermo-cautery, and slipped a strong gum ring tightly over it. The écraseur was then removed and the uterus replaced. After much pain and profuse purulent discharge, without fever, the necrosed uterus came away, on the tenth day. The wound healed rapidly.

TREATMENT OF CARBUNCLE OF THE LIP.—Lindermann makes deep punctures with the tenotome, followed by hourly injections of a hypodermic syringeful of solution of carbolic acid, two parts to one hundred, around the diseased parts. After three days of this treatment the œdema and induration diminish; the injections are then gradually reduced in frequency. In one severe case a cure resulted.

SALICYLIC ACID IN BRACHIAL NEURALGIA.—H. Fischer reports a case where neuralgia of the left shoulder occurred as a result of exposure to cold, and where the patient took two to three grammes (thirty to forty-five grains) of salicylic acid every night for two years, with the result of giving relief from pain and a good night's rest.

DANGER OF PROLONGED EMPLOYMENT OF ERGOTIN.—At a recent meeting of the Académie des Sciences (*Bull. Gén. de Thérap.*, 1880, No. 8) M. Boissarie read an article on the inconveniences and dangers of ergotin. When given in continuous doses for a considerable period, even when these are small, ergotin accumulates in the economy, and may suddenly give rise to ergotism of a severe type. He gave also the history of a case of spontaneous gangrene of the lung from ergotism.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JUNE 5, 1880.

EDITORIAL.

BROMIDE OF ETHYL.

THE death of a patient under this anæsthetic at the Jefferson Medical College Hospital will, we suppose, lead to the general recognition of the fact which we have before insisted upon, that it is a dangerous agent. The patient was about to be operated upon for stone in the bladder, but expired as the first incision was being made. As the production of anæsthesia was supervised by Dr. Levis himself, it is hardly probable that any valid excuse can or will be offered. Professor Pancoast informs us that he recently saw another case nearly die from the bromide: so that, whilst we can admire the enterprise and courage of the surgeons who have so heartily advocated the use of this substance, we think that they will agree with us that enough has been done for honor's sake, that neither science nor art demands more, and that further experiments will require justification.

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CORRESPONDENCE.

LONDON LETTER.

THE famous borough hospital near London Bridge—viz., Guy's Hospital—is the scene of strife at present which must tell in the end against its welfare, even if the strife ends in the success of the medical staff. Guy's, as is well known, is a place of historic interest, as well as a most flourishing medical school. It has always been a favorite place for the sons of doctors entering themselves as students; it has held its place in the severe examinations of the London University with much credit, and altogether was in the very front rank as a hospital and a medical school. Among its staff are to be found some of the very first men in the profession,—men whose names are well known,—and from its students it has always been able to fill its ranks, with very few exceptions, and has always manifested the greatest vitality. How, then, has Guy's Hospital become the scene of strife? I do not know whether on your side of the water nursing sisterhoods have taken root. In the Crimean War some enthusiastic ladies, under the well-known Miss Florence Nightingale, went out to nurse our sick and wounded. The effect produced thereby was great, and has had far-reaching influences. The substitution of earnest and educated women for ordinary attendants was found to be of the greatest utility, and to be most agreeable to the patients. Such, then, were the beginnings of what is now a great movement. Since that time a number of ladies have given themselves to the study of nursing, and have formed themselves into sisterhoods. The advantages of having educated women to carry out their orders, to see to the comfort of the patients, and to look after the probationers have been recognized by the medical officers of institutions, opinions, however, varying somewhat. The late Prof. James Syme expressed his opinion very decidedly in favor of the old-fashioned nurse, who was more or less a menial, and regarded a lady sister rather as "a fine lady" than as of much utility. In this opinion others have more or less shared. It has been asserted in favor of the lady nurses that their conduct is inspired by earnest self-devotion,—a revival of religious feeling, in fact,—while the old-fashioned nurse was merely a paid servant, who did her duty in return for her wages. It has been pleaded that the higher education of the lady nurse developed her utility and gave her a distinct advantage over the old-fashioned nurse; while it has not been urged, but rather implied, that the lady is better "nursing-material" than the woman reared in an inferior station in life. As some expressions of mine not long ago elicited a display of feeling on this side of the water, I approach the discussion of this matter with a full consciousness that what I say now will be critically read here. Nevertheless, and whether what is said now meets with the approval or disapprobation of the editor of the *British Medical Journal*, the subject shall be discussed dispassionately and with a strict regard to facts, or what I conceive to be facts. That I am not a warm partisan of lady nurses will easily be seen, but I trust I shall not be unfair to them. From the very outset there were those who foresaw that contention and conflict would and must arise betwixt these lady nurses and the medical officers of institutions. The whole history of humanity, and especially of the feminine part of it, goes for nothing if some of these ladies would not attempt to usurp power, possibly in the first instances for good ends and purposes. It has always been a recognized fact that women make an autocratic use of power. No one who is at all familiar with the history of the times when the Christian Church was in the plenitude of its power, known by the somewhat uncomplimentary term of "the Dark Ages," is ignorant of the fact that religious enthusiasm is not without a tendency to tyrannize. These rocks ahead were clearly enough apparent to those whose vision was keen and whose eyes were trained to see. But such persons do not become enthusiasts. People who become enthusiasts are of a very different order from those who, above all things, are rational. This movement of lady nurses had much *a priori* to recommend it. There are always in civilized society women whose time lies heavy on their hands, and who are willing to join any movement which will give them occupation; there are, too, thoroughly devoted women who are anxious to be of use in the world, and who have not become wives and mothers, and so become of value domestically. These single women, who wished to be of some use in the world, soon found those who were willing to help them. It was demanded for them that they not only should have a fair trial, but that their presence would be valuable in the wards, as medical students are a rackety set in some people's eyes, and the daily experience of a hospital nurse blunts some feminine susceptibilities. They would help to raise the tone in the wards, and tend to check flirtations betwixt the dressers and the probationers, and put a bridle on the speech of such physicians and surgeons as were not always restrained by decorum and whose remarks at times were not such as could with propriety be transcribed in family journals. At least this is the way the matter is put by a lady advocate of these lady nurses. Perhaps one's own impressions are not in harmony with this view of a hospital, and one might also venture to doubt if the carnal vice of flirtation be absolutely dead in these sisters, since some of them have married members of the profession with whom they have been brought in contact in their hospital experience. At an early stage it is scarcely possible to diagnose a genuine love-affair from a flirtation; sufficiently early, their symptoms are identical. How many abortive love-affairs and flirtations have gone on, and what proportion they bear to the actually completed matches, may not be affirmed. Anyhow, these lady nurses are not supposed to entertain matrimonial designs when they enter a sisterhood; it is only ill-natured minds who insinuate that the whole thing is a new game, a way to get a husband,—to get in contact with men. Cupid, however, is a sly little fellow, and takes single people unawares,—yes, and married people too sometimes, as the existence of a divorce court testifies. It may, however, be asserted pretty safely that this view of the matter applies only to a few lady nurses, and these certainly not those who have led to strife. Woman loves power,—about that there can be no two opinions,—and the chief rock ahead was, from the first, the danger of the usurpation of power. Where there is a committee of elderly men a woman who possesses any talent will soon make friends and turn a number of them into tools in her hands, and, having got power, she itches to exercise it. There never will be peace in institutions where there is any female above the position of a menial until there is a lady on the committee, and then the other lady would know there was a female eye upon her; and every woman and some men know what that means. Then, too, the whole of the attention of a woman in authority is given undividedly to her aim, whatever it be. Sometimes, no doubt, there are reasons for a lady official exercising her authority; but there is also room for fear that she may at other times interfere unnecessarily and unwisely. The number of quarrels which have occurred betwixt matrons and resident house-surgeons of our charitable institutions is painful to think of. Young as the movement of nursing sisterhoods is, they have had three notable rows already. King's College was the seat of a row some years ago; last year saw a row betwixt the lady superintendent and Dr. Humphry, a resident physician, at the Children's Hospital, at Pendlebury, near Manchester, in which the profession certainly sided with Dr. Humphry, while as surely that gentlemen resigned his post. "Thrice is he armed that hath his quarrel just;" yet the head of John the Baptist fell at the whim of Herodias! In the guerilla warfare of institutional strife women have a great advantage. They are always on the spot; they possess a natural power for intrigue; and, unless they are belied, they are not all too much swayed by conscience when their blood is up. And the enterprising women who not only assert their equality with man intellectually, but wish to usurp the primary position in hospitals from the medical staff, are too enthusiastic to be very scrupulous. At Guy's the row commenced by the treasurer, the autocratic master of an old endowed hospital, supporting the lady superintendent against the medical staff. She must be master of the nurses and make them understand that they were her servants, and that they must obey her orders, and not those of the medical staff if these happened to conflict. Before this the nurses were attached to certain wards, and were specially engaged with certain surgeons and physicians, with whose ways and practices they were intimately familiar. Under the new régime the nurses were moved about, so that they might acquire an all-round knowledge of nursing, as if the great end of Guy's Hospital, with its grand career, was the training and education of lady nurses. Of course the old sisters and nurses did not like this new arrangement, and a regular stampede took place among them. The medical staff could not be set at defiance and sat upon in this outrageous fashion, so they held meetings in which all rivalries and petty animosities were merged in a common sense of indignation at the state of affairs. A battle royal is imminent.

One of the ladies connected with this movement recently wrote an article in *The Nineteenth Century*, for April, in which she contrasted the old nurse and the new one, greatly to the disadvantage of the former, who was described as dissolute and given to alcoholic indulgence, while the lady nurse is a sort of nineteenth-century angel. That this view, however, is not entertained by all is proved by a letter in which a lady nurse of the "old type" criticises the "new-type" arrangement, and states that "one sister has, after fourteen years' faithful service, been dismissed *because her collar was not regulation size*,—a grave offence under the new régime." This is a pretty pass for the new movement to have reached already, and shows on what tiny matters, dust and straws, combative women can fight when they have an end to carry at the point of the bayonet. The public is being drawn into the arena, and several members of the staff of Guy's have answered in the public press the allegations of Miss Margaret Lonsdale, the authoress of a story which attained some notoriety,—"Sister Dora,"—in which an educated lady nurse lets some surgeons see what they are short of in surgery. I dare say American readers are surprised at what a hospital treasurer can be in Old England who can set at defiance the staff of Guy's Hospital. Whatever the result of the internecine strife, the hospital seems to be suffering, for it is announced in the press that nearly one hundred beds are closed for want of funds, by which the public usefulness of the hospital is much diminished. Yet, while its usefulness is thus crippled, the following paragraph appears: "Great expense is being gone into in order to convert the chapel attached to the building into a High Church by the addition, among other things, of the costly paraphernalia of the confessional," etc. This shows the spirit which is inspiring this movement, and which renders it still more offensive by lending to it a religious shade of color, and thus embittering the strife.

In a recent leader the editor of the *Philadelphia Medical Times* said, "Another most surprising thing was the tone of awe in which the treasurer of the hospital was spoken of by the medical staff, as well as the evident joy occasioned by an invitation to his garden-party." This leader is reproduced in the *Medical Times and Gazette* without any attempt to call in question the accuracy of what is stated in that leader. How autocratic was the late treasurer at St. Thomas's Hospital, and how high-handed his procedures, are matters of notoriety in the profession. We now see the treasurer of the other great borough hospital at open war with the staff. A battle is imminent, and, whichever side wins, the losers will probably withdraw their aid to the hospital, and in so far wreak their vengeance upon the unoffending poor who attend it. The *Students' Journal and Hospital Gazette*, in a leader of April 24, says of the present position as regards the students, "When the prosecution of ward studies is carried on under the inspection of the highly-cultivated women who deign to earn a living by hospital nursing, the most annoying and vexatious restrictions are imposed on students, tending often to materially interfere with the progress they are anxious to make. Hindered from consecutive labor by compulsory observance of petty time-rules and useless regulations as to ward visiting, they have often to submit to expulsion from the bedside, when careful and necessarily irregular attendance at it is essential to the clear comprehension of the varied appearances which characterize the case under notice. And not least among the evils they are forced to endure is the consciousness of espionage over their incomings and outgoings, their acts, and even their words; and a feeling of indignant chafing is thereby engendered that must seriously affect the earnestness and value of the work accomplished;" and concludes as follows: "The fate of the school can hardly be doubtful. It cannot longer be recommended as a favorable place of instruction, nor can we imagine will the reaction be minor or short-lived. It will be long ere it can hope to regain the prestige of which it has been robbed." It does not say much for the social position and influence possessed by the profession in England when two mischievous persons of no conspicuous standing can cause such remarks to be written about a medical school of the very first rank and with a glorious history attached to it.

Whatever the result of this strife will be as regards the hospital and medical school at Guy's, the struggle now going on will have a profound influence on the whole question of the training of educated nurses as well as of medical students at our large hospitals. Sir William Gull concludes his article in *The Nineteenth Century*, for May, thus: "I cannot bring to a close these few remarks on Miss Lonsdale's paper respecting 'The Crisis at Guy's Hospital' without a feeling of pain and disappointment. The tone in which she has written respecting all concerned, whether medical men, students, or nurses, is exaggerated, disrespectful, and unfair. The reckless way in which a worthy though uneducated class of women are stigmatized, the unworthy motives which are attributed to gentlemen of education, the statement that medical men and their pupils are so devoid of moral sense and refinement that their words and ways are only decent because a lady is present in the wards to restrain them, and that the opposition to lady nurses is grounded upon nothing so much as upon the desire to get rid of such restraint,—all these utterances, taken together, indicate, on the part either of the writer or of those who have inspired her, an animus which all must deplore. For my own part, I have special grounds of regret. Comparing small things with great, I had long hoped that our large hospitals might be made as available for the education and training of carefully-selected women as nurses as they have so long and successfully been for the education of medical men; and whilst I have been encouraging the authorities at Guy's to prosecute this movement, comes this writer's article, like a dead fly in the ointment of the apothecary, and mars the work." The question at issue would seem from this to be, Can the proper training of medical students and lady nurses go on together side by side in the same hospital, or is it impracticable? and if so, why?

J. MILNER FOTHERGILL.

PROCEEDINGS OF SOCIETIES.

THE PENNSYLVANIA STATE MEDICAL SOCIETY.

THE thirty-first annual session of the Pennsylvania State Medical Society was held at Altoona, from May 19 to May 21, inclusive. The meeting was well attended and generally enjoyed by those present, and nothing occurred to mar the harmony of the proceedings. Dr. Andrew Nebinger, of Philadelphia, presided with dignity. The papers were instructive, and, although their number precluded anything like a satisfactory discussion of their merits, they were heard with evident interest and attention. The entire number of delegates in attendance was one hundred and ninety-eight, besides delegates from other societies and members by invitation. In reporting the proceedings we shall consider first the parliamentary transactions; secondly, the essays and addresses; and, finally, the entertainments.

THE BUSINESS OF THE MEETING.

The sessions, as is customary, were opened with prayer; after which Dr. Rowan Clark, of Bellwood, read a brief and appropriate address of welcome from the committee of arrangements. Upon motion, all physicians present were invited to take part in the proceedings, provided that they were members in good standing of county medical societies. Dr. Allis, of Philadelphia, in his report as corresponding secretary, presented a resolution constituting the Philadelphia County Medical Society the custodian of the exchanges and publications of the State Society, in order that they shall be preserved and collected where they may be accessible to the members, this arrangement to continue in force until the Society make some other disposition of these works. Unanimously adopted.

A motion offered by Dr. John L. Atlee, of Lancaster, declaring druggists not to be "laymen" in the sense of the sentence in the Code of Ethics which says that it is "reprehensible to invite laymen to be present at operations," was laid upon the table. Dr. Atlee having been in the habit of availing himself of the assistance of druggists at his operations, and of intrusting the anæsthetic to them even when other physicians were in attendance, his attention was called to this section of the Code by the members of his county medical society. His effort, however, to obtain the sanction of the State Society signally failed; as in effect his resolution would commit the Society to the popular but erroneous theory (unfortunately, already only too prevalent) that "a graduate of pharmacy is a doctor in medicine by brevet."

On motion of Dr. Allis, the following amendment to the constitution, having laid over for one year, was adopted:

"If any member or members of a county medical society shall violate the code of medical ethics, it shall be the duty of said county medical society to discipline said member or members; and if any county medical society shall refuse or neglect to do so, it shall be the duty of the censor of the State Medical Society, on being notified of such delinquency, to officially notify said medical society of the charges made against it. And in case said county medical society shall neglect or refuse to investigate said charges, and to discipline the member or members so charged within six months from the time so officially notified, said county medical society shall forfeit all its privileges and connections with the State Medical Society, and the severance shall be publicly announced at the ensuing annual meeting of the State Medical Society."

Dr. Traill Green, of Easton, on behalf of the committee appointed to decide upon the status of Dr. Seiler, of Harrisburg, read a report, which, after considerable discussion, was adopted, declaring the status of Dr. Seiler to be that of an ex-member of the Dauphin County Medical Society, but eligible for readmission by proper application.

The Committee on the State Board of Health reported progress. The report on Medical Legislation, by Dr. Sibbett, chairman of the committee, deplored the want of uniformity existing in this country in the qualifications required for the degree of doctor in medicine, and pointedly condemned the traffic in diplomas which has so long disgraced this commonwealth, and the aid of the State Legislature and the press was invoked to suppress this breach of public trust. Upon motion, the committee was continued in order to confer with the representatives of the schools in Philadelphia during the present summer.

Dr. Ziegler, of Lancaster, moved that no delegates be received at the next meeting from county societies who have not complied with the resolution requiring said societies to appoint examining committees for the purpose of ascertaining the fitness of students who propose to enter upon the study of medicine. Subsequently, at the request of Dr. Traill Green, the roll of the county societies was called, of whom it was found that less than one-third had, up to the present time, complied with this condition.

Dr. Curwen, of the Committee on Epilepsy and Insanity, stated that only one society had complied with the request to furnish statistics, and that he, consequently, had no report to make.

An amendment to the constitution was offered by Dr. Rahter, of Harrisburg, contemplating the establishment of a judicial council of nine members, to whom all questions of discipline should be referred, instead of discussing them in open session. It was laid over under the rules until the next meeting.

The Nominating Committee presented their report, which was adopted, as follows:

Officers of Pennsylvania State Medical Society for 1881: President, Dr. J. T. Carpenter, of Schuylkill County; First Vice-President, William Varian, of Crawford County; Second, W. R. Cowden, of Butler County; Third, Thomas Lyon, of Lycoming County; Fourth, C. A. Rahter, of Dauphin County; Secretary, W. B. Atkinson, of Philadelphia; Recording Secretary, Alex. Craig, of Lancaster; Corresponding Secretary, O. H. Allis, of Philadelphia; Treasurer, Benjamin Lee, of Philadelphia. National Delegates: Drs. H. H. Smith, of Philadelphia; A. H. Sheaffer, Mifflin; James Ogleby, Montour; J. F. Ross, Clarion; L. G. Meyer, Mercer; L. H. Gibbs, Lackawanna; P. B. Baring, Northampton; J. P. Birchfield, Clearfield; T. H. Helsby, Lycoming; J. McMichael, Butler; L. De B. Kuhn, Berks.

Delegates to State Conventions: *To New Jersey*—Drs. George D. Nutt, Lycoming; J. N. Houston, Chester; John V. Shoemaker, Philadelphia; H. L. Orth, Dauphin; O. H. Allis, Philadelphia. *To New York*—Drs. J. E. Silliman, Erie; J. H. Hayes, Centre; E. R. Merrill, Luzerne; W. P. Shoemaker, Clarion. *To Ohio*—Dr. A. P. Coxe, Jefferson; J. H. Fishburn, Clinton; G. E. Lytle, Washington; B. E. Mussman, Mercer. *To Delaware*—Drs. Isaac Purcell, Montour; James Swartz, Perry; B. F. Waggonseller, Snyder. *To West Virginia*—Drs. W. S. Duncan, Fayette; E. Phillips, Troy; O. L. Blatchley, Washington. *To Maryland*—Drs. Chas. Horner, Adams; H. Allemen, York; C. W. Krise, Cumberland; R. P. Ewing, Chester. *To Massachusetts*—Drs. H. M. Bishop, Mercer; J. D. Littlefield, Crawford; Traill Green, Northampton; Andrew Nebinger, Philadelphia. *To Connecticut*—Drs. Daniel J. Bruner, Lancaster; J. A. Murphy, Luzerne; William Varian, Crawford.

Dr. Hewson, of Philadelphia, was appointed on the Standing Committee, *vice* Dr. King, deceased. The Publication Committee was continued as at present constituted.

The next place of meeting to be Lancaster, on the second Wednesday in May, 1881.

PAPERS AND ADDRESSES.

Dr. John T. Carpenter delivered the annual address in Obstetrics, in which he reviewed the history of this branch of medicine, as well as its present development in this country.

Dr. John V. Shoemaker called attention to some surprising consequences following the use of oleic iodoform (iodoform, gr. xxiv, oleic acid, ℥j), and also from the oil of ergot, as external applications. By consent of the committee of arrangements, Prof. Wm. H. Pancoast made some remarks upon the formation of a new articulation after excision of joints. He also referred to the treatment of hip-joint disease, and deprecated too great an amount of extension; just enough should be used to keep the joint at rest. Dr. Addinell Hewson reported a case of acute suppurative synovitis of the knee-joint which he had been called to amputate, but, making free incisions, he dressed it with clay, and the case entirely recovered. He also reported a case of immense fibroma of the uterus which also was perfectly cured in less than three months by the same dressing.

On the second day Dr. John H. Packard delivered the annual address in Surgery, reviewing the progress of the past year, in which he protested against the assumption that all operations not performed according to the so-called antiseptic system were necessarily septic by implication.

Professor William Goodell made some clinical observations on the treatment of uterine fibroids.

Dr. Isaac N. Kerlin, of Media, read the annual address in Mental Disorders, which exhibited evidences of careful preparation and much labor. He dwelt upon the importance of the early recognition and treatment of idiocy, and considered its relations to twin births in the same family, which he had found to be about one in eighty cases.

Hyperdistention of the air-cells as a therapeutic measure in chronic pulmonary disorders was advocated by Dr. J. Solis Cohen, by means of an ordinary rubber ball and tube, such as is used in the perfume-atomizer. The rubber tube being put into the mouth after a full inspiration has been taken, the patient, holding his nose, proceeds to inflate his lungs by fifteen or twenty successive rapid compressions of the bulb. This is followed by forcible expiration, cough, and the free discharge of bronchial secretions. Dr. Cohen had used this method with much benefit in freeing the lungs in catarrhal pneumonia, and restoring the function of collapsed portions.

Professor Pepper made some practical remarks upon the treatment of asthma, after pointing out the pathology of the varieties of this affection.

On the concluding day of the session Dr. Lee read the address on Hygiene, in which he dwelt upon the evils of defective plumbing and improper construction of buildings, and recommended that some competent system of inspection be authorized by law. At his suggestion a committee was, on motion, appointed to memorialize the Legislature upon the importance of this subject. (The chair appointed, to serve on this committee, Drs. Benjamin Lee, W. W. Dale, and Frank Woodbury.)

Dr. Allis gave a brief lecture, explaining why deformity frequently follows fracture of the lower end of the humerus, and why fractures just above or below the knee are so dangerous. At his request, he was authorized to continue the subject at the next meeting.

Dr. E. H. Coover, of Harrisburg, explained the application of a silicate-of-soda bandage for Pott's disease, which he preferred to plaster, on account of its less weight and greater durability. Dr. Charles T. Hunter, of Philadelphia, exhibited a sole-leather cuirass for the treatment of convalescent cases after the plaster-of-Paris bandage has been removed. He also recommends it in the early stage of lateral curvature. For convenience, durability, and comfort, as well as efficiency, the leather jacket has much to recommend it, although its superiority over the plaster or silicate was not insisted upon in all cases of spinal disease. It affords exceptional facilities for the attachment of the jury-mast.

Dr. S. M. Ross, of Altoona, exhibited two cases of railroad injury,—one requiring double amputation at the knee-joint, the other of part of the foot,—both performed, under an emergency, with the ordinary Gross's pocket-case of instruments. Both cases had entirely recovered. In commenting upon these cases, Dr. Ross insisted upon the advantage of retaining the patella in amputation at the knee-joint.

A paper by Dr. Lee, recommending the cheaper alkaloids of cinchona, particularly in the combination known as "quinquina," as a substitute for quinia, and one by Dr. W. H. Parish, on puerperal septicæmia, were also read and ordered to be published. Dr. Lee also made some remarks upon the curved shape of the human foot, and dwelt upon the evils resulting from shoes with straight soles, recommending the general adoption of the "Waukenphast" pattern.

Dr. D. M. Barr's paper on Anæsthesia in Labor, with the description of a new inhaler, was laid over until the next meeting for discussion. The advantages of the bromide of ethyl as an anæsthetic in practical surgery were presented in a short paper by Dr. John B. Roberts, which was ordered to be published. On the same day Dr. R. J. Levis gave a demonstration of the value of the ethyl by operating upon eleven cases, in which it was used with very satisfactory results.

The address of the President, Dr. Andrew Nebinger, was delivered in the evening of May 19, to a large and attentive audience. He dilated at some length upon the want of progress in medical education and in the qualifications for the degree of doctor in medicine, and spoke approvingly of the action of Harvard, the University of Pennsylvania, and the few other schools that are endeavoring to effect a reform in medical teaching. He declared that the time devoted to the study of medicine is at present ridiculously inadequate, and, in the interest of humanity, he demanded a more advanced standard,—a longer period of study, not less than four years; a better and more extended quality of teaching in the colleges; and an efficient preliminary examination before matriculation.

The President made the following appointments to prepare the annual addresses for the next meeting: in *Medicine*, Dr. J. Solis Cohen, Philadelphia; *Surgery*, Dr. S. M. Ross, Altoona; *Obstetrics*, Dr. S. T. Davis, Lancaster; *Hygiene*, Dr. Benjamin Lee, Philadelphia; and in *Mental Disorders*, Dr. S. S. Schultz, Danville.

A telegram of congratulation from Professor Gross was read; and the recently-elected officers were installed, at the last session.

THE ENTERTAINMENTS.

The number of the proposed entertainments and the business of the Society were both so large that some difficulty was experienced in making them agree, but by limiting the time devoted to eating and sleeping the claims of the former were measurably satisfied. On Thursday morning the Pennsylvania Railroad tendered an excursion to Cresson Springs, with a view of the famous horseshoe curve, and the Gallitzin tunnel. On the same afternoon an excursion upon the Bell's Gap narrow-gauge railroad was made to Lloydsville, situated at the top of a mountain near Altoona. This road climbs along the mountain-side, bordering deep ravines, through wild and rugged passes, giving glimpses of unrivalled scenery, the virgin forest, and mountain streams; and, early in the trip, many were the expressions of enjoyment; but when the train boldly struck off from the mountain-crest to gain a similar perilous position upon the next elevation, passing over a trestle-bridge that seemed of the rudest construction, and bow-shaped at that, the spirits of the party toned down considerably. This intensified with each successive trestle,—of which there were no less than four, each one apparently higher, longer, and more bow-shaped than the preceding,—until, finally, a sadder and a wiser party filed into the rustic park at the top of the mountain; not to remain long, however, for Jupiter Pluvius honored the occasion so effectively and obtrusively that the open cars, on returning, seemed only a little more wet than any other place in the neighborhood. For a summer excursion, the party would have preferred pyrotechnics, or something that they could stand off from and admire. This little adventure, however, did not prevent the survivors, shortly after their return, from attending and enjoying, upon the same evening, a social supper and reception at the Logan House, given by the Blair County Medical Society. A tour of the Pennsylvania Railroad shops on Friday afternoon concluded the entertainments.

The members in attendance uniformly expressed the gratification experienced from the meeting, and on the last day of the session a vote of thanks was unanimously adopted, tendering the acknowledgments of the Pennsylvania State Medical Society to the officers of the Society and the committee of arrangements for their efficient discharge of duty; to the Blair County Medical Society for its hospitality; to the Pennsylvania Railroad for the excursions; and also to it and other roads for courtesies in reducing the rates of travel to delegates.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting was held at the hall of the College of Physicians, Philadelphia, April 28, 1880, Dr. John H. Packard, Vice-President of the Society, in the chair. Dr. Henry H. Smith, by request, presented a short paper "On the Operation of the Mutual Aid Association of the Society." Dr. H. Leffmann also read a paper on "The Alcoholic Liquors of Philadelphia." Dr. G. W. Vogler read an obituary notice of Dr. J. M. Boisnot.

DISCUSSION UPON PHILADELPHIA LIQUORS.

Dr. H. C. Wood stated that at the Paris Exposition the Philadelphia beer was honest, contained no deleterious substance, and contained the proper proportion of alcohol.

Dr. W. R. D. Blackwood considered that the lecturer had been too sanguine in declaring that the drugs used in compounding liquors were not injurious, and could not agree with him. The oil of cognac, nitro-benzole, alum, glycerin, sweet spirit of nitre, œnanthic ether, and chemical coloring are not to be considered as improving the wholesome character of liquor. By the aid of such substances, and filtration through animal charcoal, raw whisky, in the course of six or seven days, is converted into what is called brandy, and commonly sold under guarantee, by both wholesalers and retailers, for brandy. In this way he had seen a barrel of whisky, in the course of ten days, changed into six or seven varieties of brandy. The wines are also artificially prepared. In Europe they are cheap and pure, and can be used without bad effect; in this city half a pint of wine will produce a headache. In the speaker's opinion, there is not a drachm of honest, unadulterated wine in the United States, except perhaps the Egg Harbor wines and some made for home consumption. Beer and ale also have many substances added to them besides malt, yeast, and hops. He had visited breweries, and seen aloes, cocculus Indicus, grains of Paradise, common salt, and other unrecognized substances shovelled into the vats. If beer were honestly made, there should not be so much difference between the products of different breweries as to taste, color, and effect.

Another evidence of adulteration is that there is very much more injurious effect from liquors at present than formerly. Those who are often called upon to treat hemorrhoids clearly recognize the bad effects of liquor upon this complaint. In conclusion, he hoped that Dr. Leffmann would continue the investigation and report again upon it, as he believed that the alcoholic liquors now sold are responsible for a large amount of the sickness, crime, and high taxation in this and other cities.

Dr. O'Hara could not believe that the adulterations could be as harmless as had been stated. Molasses whisky, it was thought, did a great deal of harm some years ago, on account of the fusel oil it contained. The lecturer had not referred to this contamination of raw whisky, which it takes years to remove and is acknowledged to be very injurious.

Dr. Charles H. Thomas, from an investigation made some years ago, was positive that large quantities of good whisky are in this city stored in the warehouses, where they remain for years, until the fusel oil is changed into a delicate ether. Two years are required to produce a drinkable whisky, while from five to seven are needed for a good article. Raw whisky will produce nausea and vomiting, even in small quantities. If spirits were so generally adulterated, he did not believe that the same effect could be obtained when used for medicinal purposes; and yet we know that really fine, good, ripe whisky is beyond price in many cases.

Dr. W. R. D. Blackwood did not deny that what comes from the still is whisky, nor that it is stored in warehouses, but he knew that what was sold to the consumer is not pure, but has passed through several hands, each time being watered down and doctored up. As long as it pays to adulterate, people will be found to do it. Whisky is not stored for years, but is aged chemically and sent out as rapidly as possible. Storage for seven or eight years is impracticable, with the immense flood which is continually turned out.

Dr. Leffmann, in closing the debate, said that by age and oxidation fusel oil is changed into valerianic acid or, probably, valerianate of amyl,—a process which may be greatly hastened by an elevated temperature. In many storage-houses there are hot-rooms fitted up, where the whisky is subjected to heat which, in the course of a few weeks, would "age" the liquor as much as, otherwise, it would require years to do. The alcoholic liquors of Philadelphia are not seriously tampered with: they are manipulated, but not dangerously adulterated.

DISCUSSION ON RHUS-POISONING.

Dr. W. R. D. Blackwood said that he had tried bicarbonate of sodium and alkalies, chloral, lead-water, bisulphites, serpentaria, lobelia, sulphates of lead, iron, copper, and zinc, and other remedies, in a case of rhus-poisoning without checking the disease. He believed that it would take its course of about ten days in spite of treatment, and asked for suggestions.

Dr. Atkinson recommended sweet spirit of nitre; another member recommended fluid extract of serpentaria; another, oleate of mercury and clay; fluid extract of grindelia robusta internally and to the surface; acetate of lead was also recommended; bromine in olive oil (♏ x to ℥j), freshly prepared, was also pronounced a specific.

Dr. Blackwood reported that some six years before, while suffering from rhus-poisoning himself, he had communicated the disease to a patient with a fracture of the wrist, which he had treated before his own disease was fully developed. The disorder was therefore contagious.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MARCH 11, 1880.

The VICE-PRESIDENT, DR. JAMES TYSON, in the chair.

Cystic kidneys, with renal asthma. Presented by DR. E. T. BRUEN.

THE kidneys which I exhibit to the Society this evening almost duplicate those which Dr. Tyson exhibited not very long since. They are in a state of advanced cystic degeneration. Of the left kidney hardly a vestige of renal substance exists, merely the capsule of condensed connective tissue and blood-vessels remaining. The right is very nearly as extensively altered, although there is probably more renal tissue. In the saccular spaces I found a large number—some ten or twelve—of stones, the size of which ranged from that of a cherry-stone to that of a large walnut. The right kidney weighed six ounces, the left two ounces. The right measured longitudinally five and a quarter inches, transversely two and three-quarter inches. The left measured longitudinally two and a half inches, transversely one and three-quarter inches.

The ureters are much dilated; that from the right kidney is the larger, and would admit a No. 24 English sound. The bladder appeared somewhat thickened, and the openings of the ureters were large enough for me to introduce my finger within them. No stones either in the bladder or in the ureters.

The patient's history was that of a healthy man until the age of 65, when he died. During the last five years of life he suffered from bronchitis and emphysema. He was under my charge about two weeks, during which time about seventy ounces of urine were passed daily. It was slightly albuminous, sp. gr. 1006, no casts. There was slight anasarca of the lower limbs; this he told me had never been worse than I saw it, and he had never concerned himself about it. From hypertrophy of the heart, accentuated second sound, and other general symptoms, I believed him to be suffering from interstitial nephritis, which was practically the case. The chief object that I have in exhibiting these specimens is to invite attention to the peculiar symptoms which preceded death. I found him one morning with all the symptoms of asthma,—pale face, anxious expression, cold, clammy skin, superficial veins distended by blood, violent respiratory efforts, and much suffering from want of breath. To my surprise, on auscultating the chest, air entered and left it without bronchial or laryngeal obstruction: the heart was acting with sufficient power to carry on circulation. There were no râles to be heard. The determining cause of this condition I learned to have been an altercation, from which time the patient had grown worse.

I believed the asthma to be uræmic, due to the retention in the blood of those organic materials which it was the function of the kidneys to excrete, but which had not been found in the urine: moreover, I recalled, the skin had always been dry and harsh. The organic materials thus retained had acted as irritants to the terminal filaments of the vaso-motor nerves, producing a spasm which was manifested in the lungs by the deficient aëration of the blood and the dyspnœa. This species of asthma has been described by Dr. Allbutt in the *British Medical Journal* of September, 1877, and alluded to by Dr. Johnson in the same journal in the Lumleian Lectures. That retention of the nitrogenous material is capable of producing increased vaso-motor tension has been proved by the experiments of Dr. Parkes, published in the *Lancet* of May, 1874, in which he states that after having kept a number of soldiers upon a non-nitrogenous diet, and then upon a nitrogenous diet, he found that the arterial pressure was proportionate to the increase or diminution of the nitrogenous food which was supplied in excess of the wants of the economy. If, then, the kidneys or the skin fail in their functional activity, how much the more readily can we understand an exaggerated expression of the evils of an increased condition of arterial tension! Dr. Allbutt says it is especially in cases of interstitial nephritis that these attacks are most common. The kidneys I exhibit to-night are practically those of interstitial nephritis.

In my patient, owing to his age, the dyspnœa finally culminated in death, as he was an old man and the heart was fatty and dilated. Nevertheless, I was enabled by treatment to prolong his life for several days. Towards the last, from cardiac failure and pulmonary congestion, râles indicating œdema were heard. In the course of interstitial Bright's disease transient dyspnœa is frequently noticed. Occasionally this can be understood from various pulmonary or cardiac lesions. In the absence of these this uræmic asthma is a reasonable explanation, and it is to be diagnosed by the presence of the symptoms of asthma, and the absence of bronchial spasms. The paroxysm occurs because the blood cannot reach the air, not because the air cannot reach the blood. I have seen other cases in which treatment has averted the danger, and the physiological action of remedies lends us aid in confirming the truth of the theory. This is not the place to speak of such evidence. The determining causes are chiefly mental, mainly emotional in their character, as, for instance, care, sudden excitement, and the like, and, on the other hand, an attack may be precipitated by over-indulgence in food and the introduction of imperfectly assimilated albuminoid principles into the circulation, or, even without the intervention of dyspepsia, more food may be ingested than can be applied to the conservation of the tissues or eliminated as waste.

Dr. TYSON called attention to the openings of the ureters into the bladder, in comparison with those of a specimen lately presented by him. In the latter the ureters were closed, or almost so, while it was evident also that several calculi had descended into the bladder. In the specimen exhibited to-night the orifices of the ureters are large enough to admit the little finger. This, Dr. Tyson thought, could be explained by the condition of the two bladders: in Dr. Bruen's specimen there is a ribbed bladder, the result of an inflammatory process, in which there exists a tendency to back the urine into the ureters, causing their dilatation; in his case this backing of urine from the bladder into the ureters did not occur, as the point of obstruction was above.

Tubercular meningitis, with a tubercle granulation on the floor of the fourth ventricle. Presented by Dr. MORRIS J. LEWIS.

Mary E. O'R., æt. 6½ months, white, youngest of two children, eldest healthy. No history obtained of hereditary disease in either the father's or the mother's family. The father is said to have nasal catarrh and cough. The mother is a pale, thin woman; she has never had cough or night-sweats, but examination revealed harsh respiration both anteriorly and posteriorly at right apex, but no moist sounds were detected.

No history of constitutional syphilis could be elicited. Until the patient was four months old it remained to all appearances perfectly well; a slight nasal catarrh then made its appearance, and this was soon followed by a slight cough. The child was well nourished, her bowels were regular, and the passages natural in appearance.

On January 24, 1880, the child was first brought to the Children's Hospital Dispensary; she was seen by Dr. A.V. Meigs, and was suffering from nasal catarrh and slight cough. Shortly after this she was seen by me for the first time; the symptoms were as above described, and the child appeared to be doing well until the 18th of February, when there was a slight attack of vomiting, with conjugate deviation of the eyes to the right. These symptoms soon passed away, and no more serious ones appeared until March 1, when the mother noticed that the child did not appear to see; the hydrocephalic cry then made its appearance, and the child began again to vomit. During the night of March 2 she had three violent convulsions, each one lasting about fifteen minutes, and with about fifteen minutes' intermission; during these convulsions the right arm and leg and left side of the face were convulsed, while the left arm and leg were comparatively flaccid. The mouth was drawn strongly to the left, the eyes were turned upwards and to the left, and the head was retracted. The next day the child had slight diarrhœa, with green evacuations. On March 5 I visited the child at its home, and its condition was as follows:

The child lay quietly in bed on its back, with its head retracted. The head was quite large, the anterior fontanelle very prominent and pulsating visibly, all the veins over the anterior part of the head large and tortuous; eyeballs not pressed downwards in the least; conjugate deviation of the eyes left and upwards; left eyelid closed, right partly open, but this condition varied frequently; conjunctivæ hazy and injected, pupils dilated and immovable; child apparently blind, not noticing sunlight when flashed in eyes; skin of upper lip indurated and somewhat excoriated; toes of right foot powerfully extended, same true of left great toe; sensation apparently preserved on both sides, but a little better on right side; able to move both arms and legs, but right arm and leg moved much more powerfully than those on the left side. Tongue coated with a dense white fur. Child has no teeth. Abdomen not retracted. Examination of chest and abdomen negative. Pulse

140, and temperature $99\frac{4}{5}$° F. Cheyne-Stokes type of respiration well marked,—14 per minute. *Tache méningitique* very slow in appearing, but quite pronounced, and lasting a considerable time. Commencing cyanosis.

The child was placed upon bromide of potassium and hydrate of chloral, of each three-quarters of a grain every three hours, and inunction of mercurial ointment twice daily.

Ophthalmoscopic examination revealed marked choking of the disc in both eyes, most marked in right. No tubercles detected in choroid.

On the following day the child was much the same; she had had no more well-marked convulsions, but the right arm and leg were kept in a constant state of motion, the knee being somewhat rigid. When disturbed or touched she moved the left arm and leg slightly, and when crying the mouth was drawn somewhat to the left.

In the evening, from six to nine, she had numerous slight convulsions, all of them confined to the right side of the body and the left side of the face. Numerous light-red blotches about a quarter of an inch in diameter were noticed on various parts of the body, sometimes disappearing soon after their appearance.

March 8.—Pulse 200, temperature $101\frac{2}{5}$° F. Cheyne-Stokes type of respiration still more marked; constant slight rigidity of right leg and arm; cried only when touched; utterly unable to nurse, but was perfectly able to swallow milk when placed in mouth; bowels not opened since the 6th: responded freely to injection; urinated about twice in twenty-four hours; conjunctivæ very much injected, and covered with purulent secretion; no conjugate deviation of eyes, but eyes were occasionally rolled from side to side; head still retracted. Applied blister to nape of neck.

March 9.—After passing a very restless night, with occasional slight spasms upon right side, she had a violent convulsion, which was decidedly most marked upon the left side of the body, and shortly after this she died.

Autopsy, three hours after death, assisted by Dr. Louis Starr.

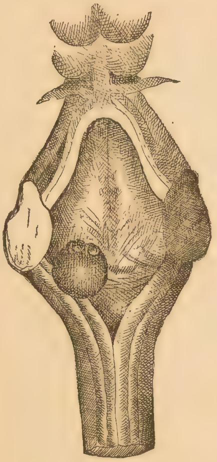
Child well nourished; rigor mortis commencing; skin mottled with large irregular light-purple spots, quite faint.

Head quite large, measuring 18 inches in circumference, and $10\frac{1}{4}$ inches from ear to ear across the top of the head; bones of the head freely movable upon one another; anterior fontanelle bulging. Upon opening skull there was seen a slight subarachnoid effusion; convolutions flattened; marked injection of all the vessels on convexity, very much more pronounced upon the right side; no tubercles detected.

Upon removing the brain a small amount of fluid escaped; pia mater at base very cloudy; convolutions on each side of the fissure of Sylvius upon the right side tightly adherent to one another, with some superimposed lymph; numerous miliary tubercles scattered on each side of fissure along its whole length, but very few noticed on left side of brain.

In the neighborhood of the paracential lobule on right side a small patch of tubercles seen; ventricles enormously dilated, especially the right one, and filled with clear serum, without lymph or detritus; ependyma perfectly normal in appearance; choroid plexus much injected upon right side, and with few miliary tubercles; brain very much softened; great ganglia at base normal; cerebellum apparently normal.

A pedunculated tumor, about the size of a large marrowfat pea, yellowish in color and soft in consistence, was seen springing from the left side of the fourth ventricle, just inside of the posterior pyramid, midway between the cerebellar peduncle and the calamus scriptorius; the tumor pointed upwards to the right, and a little backwards, touching the under surface of the middle lobe of the cerebellum; the tissue of the brain at point of contact appeared somewhat reddened and softened. No miliary tubercles seen in neighborhood of tumor (see cut). The ocular ends of both optic nerves were markedly pyriform, and there was also choking of the discs. All the other organs normal in appearance except the left lung, which had three or four small, firm, white fibrous masses about the size of a grain of rice scattered through it. No miliary tubercles detected.



Thoracic and abdominal glands not enlarged. No tubercles seen elsewhere than in brain, and no cheesy focus discovered.

Remarks.—Several interesting points arise in the consideration of this case.

Huguenin (in Ziemssen's Cyclopædia) states that tubercular meningitis, unaccompanied by tubercular deposits in the other organs, or without a cheesy focus as a starting-point of the infection, but rarely occurs. In this case, it is true, no microscopic examination of the various organs was instituted, but, macroscopically, no tubercles could be detected elsewhere than in the brain, and those were plainly to be seen; and unless the slight degree of nasal catarrh can be taken as the starting-point of the disease, no focus could be detected, as the small, fibrous spots in the left lung were perfectly quiescent, and not the subject of any apparent retrograde change, nor were there any tubercles in their vicinity.

The nasal catarrh must be considered as the starting-point of the tuberculosis in this case,—a fact to be borne in mind as a possible termination of that obstinate but often considered trivial disease.

According to the statistics of Rilliet and Barthez, as given in Meigs and Pepper's work on children, only once in three hundred and twelve cases of tubercular meningitis were the tubercles confined to the meninges or brain. Eustace Smith, in his "Clinical Studies," states that acute tuberculosis of the pia mater may occur at any period of life, but is most frequently met with between the ages of three and ten years. It is, however, far from uncommon in infants a few months old; but in such cases the distribution of the gray granulations is *almost invariably* general over the whole body, and the symptoms arising from the cranial cavity occur late in the disease.

Steiner makes the same statement in his work.

According to Huguenin, Rilliet and Barthez, and West, tubercular meningitis rarely occurs during the first year of life, the latter author having seen but five out of seventy-nine fatal cases where the diagnosis was verified by an autopsy.

The tumor, from its position, must have pressed more or less upon the important nuclei in the floor of the fourth ventricle, and this may account for some of the irregularity in the symptoms. It is to be regretted that no examination of the urine was made, as the proof of presence or absence of sugar would have been an additional point of interest, as the tumor so nearly encroached upon the point which, when irritated artificially, produces glycosuria.

The cross-convulsive movements, viz., right arm and leg and left side of face, lasting for several days, are difficult of explanation, as all the tubercular deposit was upon the right hemisphere of the brain, and these symptoms cannot be well ascribed to the tumor, at least according to our present scant knowledge of the functions of the medulla oblongata. The lesions in the present case are too general, however, for us to draw any conclusions as to cerebral localization.

The majority of the tumors of the medulla oblongata are tubercular in character, and are nearly always accompanied by intense hydrocephalus. The hydrocephalus in this case must be considered as partly due to the condition of the choroid plexus and to the tumor, which latter must have more or less filled up the fourth ventricle, and so have interfered with the return of the cerebro-spinal fluid. Indirect pressure may also have been made upon the venæ Galeni, and thus have aided in the ventricular dropsy.

Report of the Committee on Morbid Growths.—"A microscopical examination of a section of the tumor, situated on the floor of the fourth ventricle, shows its histological structure to consist of embryonal cells, separated by a very delicate reticulum of fibrous tissue,—adenoid tissue. At the periphery of the tumor this tissue is seen in an active stage of development; passing towards the centre, the cells gradually become more scattered and granular, the intercellular substance more distinct, until there is observed nothing but a granular débris, and, finally, in the centre, there is a loss of substance. The blood-vessels are seen with their lumina obliterated by cells and granular matter, which in transverse section give them the appearance of giant cells. The new formation is a tubercular granulation.

"April 8, 1880."

Hæmatoid myxoma of the breast. Presented by Dr. J. M. BARTON.

Miss N. M., æt. 59 years, discovered, in the early part of 1875, a small tumor in the right mammary gland. It grew but slowly, without pain. When removed in August, 1876, it had reached the size of a walnut, was distinctly encapsulated, and had developed in the cellular tissue rather than in the gland.

It fluctuated quite distinctly before removal, and was found to be filled with fluid blood, black and tarry. The wall from which the blood came was quite thin, and might readily have been taken for that of a simple cyst.

The tumor which I here present was removed at the German Hospital, March 2, 1880, is a little more than twice the size of its predecessor, and had been noticed by the patient since January, 1879. It has given but little inconvenience, being only occasionally the seat of sharp lancinating pains, intervals of three or four weeks having occurred in which the patient was entirely free from pain. The tumor was quite slow in its growth until six weeks ago, since which time it has doubled its size.

Previous to its removal it distinctly fluctuated, was immediately beneath the skin, to which it was attached, but encroached decidedly upon the mammary gland, was irregular in its outline and purplish in color, and had developed at the situation of the previous growth.

At the present operation I removed the entire gland with the tumor, as well as the attached skin.

On opening the growth it was found to resemble the previously-removed tumor.

Report of the Committee on Morbid Growths.—"A section of the new formation is seen to consist of a delicate reticulum, made up of fibrils, spindle- and stellate-shaped cells; the meshes formed by this reticulated structure are filled with a structureless, hyaline, intercellular substance and an occasional lymphoid cell. Numerous blood-vessels are seen distended with blood. The histological structure indicates a myxoma.

"April 8, 1880."

REVIEWS AND BOOK NOTICES.

SKIN DISEASES, INCLUDING THEIR DEFINITION, SYMPTOMS, DIAGNOSIS, PROGNOSIS, MORBID ANATOMY, AND TREATMENT. A MANUAL FOR STUDENTS AND PRACTITIONERS. By MALCOM MORRIS, Joint Lecturer on Dermatology at St. Mary's Hospital Medical School, etc. With Illustrations. Philadelphia, Henry C. Lea, 1880. 12mo, pp. 320.

It is extremely difficult to write a short compendium of skin diseases which shall be well balanced, clear, practical, concise without undue brevity, and at the same time something more than a mere catalogue of names with specific formulæ attached to each. Mr. Morris, while he has not succeeded in producing an ideal compendium, has certainly gone farther in this direction than his predecessors. The arrangement of the book in accordance with a regular system of classification, instead of the alphabetical order in which some previous manuals of the kind have been thrown, has its advantage in helping the student to arrange in his mind something like a general view of the subject. But Mr. Morris's work contains several errors of proportion which mar very much its usefulness. Thus, fifty pages are taken up with the description of fevers which are more likely to be studied by students in the usual treatises on medicine, while several quite important affections are omitted; and in the general description of the various diseases entirely too much space is taken up with the discussion of morbid anatomy, while diagnosis and treatment are often dismissed with a few curt and unsatisfactory sentences.

To read Mr. Morris's book, it would not be imagined that American dermatology existed; and this makes his work a very imperfect guide to the American student. The classification, however, is taken from that of Dr. Bulkley, and is very good; also the pictures illustrating the anatomy of the skin; but there are no illustrations of the vegetable and animal parasites, which are equally if not more important. Several typographical errors disfigure the reprint, which is otherwise very convenient and neatly gotten up. A. V. H.

A TEXT-BOOK OF PHYSIOLOGY. By M. FOSTER, M.D. With Notes and Additions by EDWARD T. REICHERT. Philadelphia, Henry C. Lea, 1880.

The additions of Dr. Reichert to Foster's Text-Book of Physiology are chiefly in regard to physiological anatomy, and are carefully done. As the book is the best in the language upon the subject, and as the competition between the original and the Philadelphia edition has caused a reduction in the price to a nominal sum, every practitioner should buy a copy of it.

GLEANINGS FROM EXCHANGES.

NITRO-GLYCERIN IN MIGRAINE, ASTHMA, ETC.—Mr. A. W. Mayo Robson writes to the *British Medical Journal* of April 10 that in migraine one or two drops of a one-per-cent. solution of nitro-glycerin produces, within a few minutes, a diminution of tension in the previously corded temporal artery and relief of the pain, which in some cases does not return, but in others recurs when the physiological effects of the drug have passed off. As individuals are affected differently by nitro-glycerin, he always begins with one minim of the one-per-cent. solution, but sometimes finds it necessary to increase the dose to three or four minims to produce the desired effect. In several cases of asthma it has relieved the breathing in a most remarkable manner. The cases in which it answers are such as would be relieved by amyl nitrite, but its effects are more marked and the relief is more permanent. In angina pectoris, if the remedy be given thrice daily in gradually increasing doses, beginning with one minim of the one-per-cent. solution and steadily advancing to eight minims, the attacks lessen in frequency and severity. Dr. Robson suggests that the remedy should be tried in epilepsy.

PAGET'S DISEASE OF THE NIPPLE FOLLOWED BY CANCER OF THE BREAST.—Dr. Welply writes to the *British Medical Journal* of April 10, giving an account of a woman of 36, the mother of several children, in whom the nipple and areola of the left breast were florid, intensely red, raw, very finely granular, and appeared as though the whole thickness of the epidermis and part of the cutis had been removed. It did not look in the least like eczema, nor had it the clinical appearances of cancerous ulceration. There was a copious exudation from the raw surface. At the upper part of the gland there was a distinct tumor, over which the skin was not movable. A clear interval of apparently healthy tissue separated the nipple and tumor. She stated that the nipple had been sore for about two years, and that the tumor was not noticed by her until six months previous to the date on which Mr. Welply first saw her. She would not consent to an operation, and the disease subsequently ran a rapid course, and terminated fatally.

CHRONIC OVARITIS.—At a recent meeting of the Harveian Society (*Med. Press and Circ.*, 1880, p. 325), Dr. John Williams read a paper on "Chronic Ovaritis." He said that menstruation occurs without discharge of an ovum or the ripening of a Graafian follicle. A Graafian follicle matures and ruptures, in the great majority of cases, every month, the time of rupture being usually just before the commencement of menstruation, in rare cases towards the close of a flow, or about the middle of the intermenstrual interval. The occurrence of menstruation after the removal of both ovaries shows the insufficiency of the basis of the theory which traces menstrual disorders to ovarian inflammation, and has given rise to the theory of the independence of the menstrual and ovarian functions. Ovarian pain, especially on the left side, is of so frequent occurrence that many have referred it to inflammation and neuralgia rather than to inflammation. The author corroborated these views, and found reason for regarding it as of inflammatory origin. Cases of ovaritis were divided into three classes: (1) those following labor and abortion; (2) those following accidental causes, fevers, injuries, etc.; (3) those following dysmenorrhœa. It is with regard to the latter that opinions differ. The author regarded them as cases of inflammation, the cause being found in the dysmenorrhœa. They are very difficult of cure, because the courses recur monthly. The subjects of this form become nervous, hysterical, and often confirmed invalids. They are usually sterile, and marriage, instead of benefiting them, aggravates the suffering.

Ice to the Abdomen in Typhoid Fever.—At a recent *séance* of the Société Médicale des Hôpitaux, M. Labbé called attention to the efficacy of ice applications to the abdomen in typhoid fever, complicated or not. He related the case of a young girl attacked with typhoid, whose temperature exceeded 104°, and who appeared at the last extremity, who under the influence of this treatment was perfectly cured. M. Labbé claims for this procedure a considerable lowering of the temperature and a notable amelioration of all the other symptoms.

Explosive Combinations in Pharmacy.—We select the following items from an interesting article on dispensing in the London *Chemist's and Druggist's Almanac* for 1880:

Chloride or iodide of nitrogen is formed by the addition of chlorine or a chloride, or iodine or an iodide, to ammonia; and this compound is liable to violent explosion on coming in contact with phosphorus, iodine, arsenic, olive or cod-liver oil, turpentine, etc.

Tincture of iodine and ammonia are often prescribed together, and iodide of nitrogen is necessarily produced. The rarity of accidents is due to the fact that the iodide is not free from water.

Mr. Rice, in *New Remedies*, mentions an explosion resulting from the preparation of the following prescription, iodide of nitrogen being evidently the cause:

℞ Iodinii, gr. xv;
Lin. camph. co.,
Lin. saponis co., āā gr. lx.

A concentrated solution of iodine and iodide of potassium was filtered through paper. The next day the filter was touched to be removed, when the paper and funnel broke into atoms with a loud explosion.

Concentrated solutions of permanganate of potash in alcohol are liable to explosion, and bichromate of potash in alcohol may ignite the latter. Aqua regia will also often cause an explosion with alcoholates or essences.

Chlorate of potash mixed dry with tannin is dangerous, and an explosion has resulted from its mixture with muriate of morphia. The following prescription was presented at a pharmacy in New York: it cannot be prepared without an explosion:

℞ Lactis sulphuris, gr. iij;
Antimon. sulph. aurant., gr. iij;
Zinci valerian., gr. i;
Potass. chlorat., gr. ij.

The addition of nitrate of silver to essence of bitter almonds to remove the hydrocyanic acid has been followed by ignition.

The following compounds have at different times caused more or less serious accidents:

℞ Calcis hypophosphitis, gr. viij;
Potassæ chloratis, gr. xij;
Ferri lactatis, gr. v.

The trituration of hypophosphite of lime alone has sometimes resulted in an explosion. A man was killed at Erfurt while drying one kilogramme of the salt in a sand-bath. It is said to be most dangerous if quite pure.

℞ Glycerini, fʒij;
Acidi chromici, ʒi.

This mixture can be made by adding the acid to the glycerin by very slow degrees.

A mixture containing chlorate of potash, tincture of perchloride of iron, and glycerin once burst in the pocket of a patient.

Pills containing oxide of silver are liable to inflame if they become warm. They have taken fire in the pocket of a customer, causing severe burns.

Other compounds liable to inflame during or after preparation are permanganate of potash and extract of milfoil, permanganate of potash and reduced iron in pills, golden sulphuret of antimony and chlorate of soda in pills.

It is always dangerous to associate glycerin or, in general, any deoxidizer with easily-reducible compounds, such as the permanganates, chromic acid, the chlorates, and some organic acids.—*Boston Journal of Chemistry.*

Czerny's Operation for the Radical Cure of Hernia.—Of the many operations advocated for the radical cure of hernia, none have been proposed, thus far, that are free from objection of one kind or other. The advantages claimed by Czerny for the operation adopted by him are that the results are more certain, as the fibrous columns of the external ring are drawn close together, and an exact application of the sutures can be made, causing a narrowing of the internal aperture. The operation is as follows. An incision is made along the whole length of the hernia. If intestinal and reducible, the contents of the sac are returned to the cavity; if irreducible and intestinal, they are dissected loose and reduced, the sac being ligatured at the neck and cut off. When the contents are omental, they are included in the ligature with the sac. The fibrous columns of the external rings are drawn together by an uninterrupted suture of strong carbolized catgut. After the insertion of a drainage-tube, the wound is closed with sutures and dressed antiseptically. This mode of procedure has been adopted in nine cases of inguinal hernia, without the occurrence of peritonitis. The first recorded case of the operation in this country was in a man who had an irreducible hernia, that rendered him unable to pursue his occupation, as he could not wear a truss. The result, by Dr. E. W. Lee, was successful. —*Chicago Medical Gazette*, January 20, 1880.

PATHOLOGY OF RELAPSING FEVER.—Dr. H. V. Carter, of Bombay, has made some experiments in the inoculation of monkeys with saliva, blood, etc., with a view to study the pathology of relapsing, or, as he calls it, "spirillum," fever, the conclusions of which were read before the Royal Medical and Chirurgical Society at a recent meeting (*Med. Times and Gaz.*, 1880, p. 304). He concludes: 1. That the spirillum fever (relapsing fever) of man is directly transmissible to a quadrumanous animal. 2. That there occurs a non-febrile infection of the blood prior to "fever." 3. That though the blood spirillum was never seen in the monkey without fever ensuing sooner or later, yet the pyrexia is secondary in time, and is susceptible of highly-varied manifestation, and the spirillum disease may be defined as essentially a *mycosis sanguinis cum febre*. The inoculation experiments have been repeated in Germany.

MISCELLANY.

DR. JOSEPH BERENS.—On Sunday evening, May 16, Dr. Joseph Berens stopped at my office to talk about a patient, and before going away incidentally showed me a boil upon his neck situated about two inches below the mastoid process on the edge of the trapezius muscle, asking me if it would be a large one. The sore looked like an ordinary furuncle of moderate size, having no unusual appearance.

On Tuesday Dr. Berens sent for me professionally. He had been called out about 4 A.M., but felt so unwell that on returning he went back to bed. Through Tuesday he had decided fever, but, as his neck was very sore, I thought that the elevated temperature was due to the local affection. There was also a very marked nervous irritability, which was attributed to his having been much overworked and over-worried. Wednesday, his symptoms were worse; the fever more intense; pulse from 90 to 100, and exceedingly hard and full. The boil itself offered nothing remarkable, but the whole trapezius muscle was very sore, and almost paralyzed by pain; its upper portion was somewhat swollen, and there were three hard, exquisitely tender points about two inches apart, one of them being close to the spine, and the whole so arranged as to make, with the boil, an irregularly trapezoidal space or figure; one of these points was probably too far front to be upon the trapezius muscle.

The treatment upon Tuesday had consisted in the use of a large poultice, with laudanum, on the neck, and the administration of fifteen grains of quinine, with tincture of aconite root and morphia, internally. This treatment was continued during Wednesday. In the afternoon I had Professor Harrison Allen to see Dr. Berens in consultation: after careful examination and discussion, it was decided that neither caustic nor the knife ought to be used. Wednesday evening there were very marked general pains, and septicæmia was feared. The most careful questioning failed, however, to find any source of infection, the only important statement elicited being that "two or three weeks ago I cut my finger whilst doing a uterine operation."

There had been some flightiness during Tuesday night, Wednesday night there was decided delirium, and on Thursday morning the fever was intense (105°), the general pains severe, and a very intense paroxysmal agony was complained of in the side opposite to the boil. The local trouble in the neck seemed much better, but a very coarse plastic friction-sound existed at the base of one lung. Eighty grains of the salicylate of sodium were given in four doses; free wet and dry cupping over the affected side, followed by a large poultice. The temperature fell, under the influence of the salicylate, to 99.5°, with excessive sweating. The cups gave temporary relief, their application being followed by two or three hours' sleep. During this time I counted the respirations; they were eighteen a minute, very full, but entirely thoracic, the diaphragm apparently not moving at all.

There were hawked up during Wednesday night and Thursday a few gouts of blackish blood, with a few masses of gelatinous mucus, but there was very little cough or other sputa.

Thursday night was a very suffering, restless one, and early the next morning Dr. Berens had some sort of a suffocative attack, which he told me was due to spasm of the glottis, and which was so severe that he thought he was dying. I arrived after it was over. The pulse had now risen to 120 to 130, and had lost its force; the breathing had become more rapid, and chiefly confined to the non-affected side.

Dr. Da Costa saw him with me in consultation, and confirmed the diagnosis of a septic plastic pleurisy, with pulmonic congestion; indeed, by this time the pleuritic friction-râle was very loud over the whole right side of the chest. I had tried the exhibition of alcoholic stimulants on Thursday, but they were not borne at all well, causing great increase of the restlessness and general distress; so that Dr. Berens absolutely refused to test them any further. Alcohol and digitalis were now, however, freely exhibited; dry cups were applied freely over the chest, etc.; but no remedy produced any appreciable effect whatever. Our patient sank rapidly, dying comatose about 7 P.M., apparently of suffocation. By 2 P.M. the whole surface had taken on a livid, dusky hue, and the intellect was so obscured that the patient could only be aroused with some difficulty, and after this his respirations became constantly more and more shallow, the upper-chest character being preserved to the last. The idea was suggested by the symptoms that the blood had lost its power of carrying ozone. There was certainly no fluid effusion into the pleura. No post-mortem examination was allowed.

Careful inquiry since Dr. Berens's death has shown that he cut his finger on the Thursday before his death whilst working with a case of severe uterine disease, and that he was so unwell on Friday that he spontaneously took fifteen or twenty grains of quinine. On Saturday morning the furuncle appeared upon his neck. During his whole illness his mental actions were very peculiar, and it is probable that his brain, tormented with fever and poisoned blood, was unable, when he was questioned, to remember dates aright. It should be stated that there were no local symptoms on the hand.

Having known Dr. Berens intimately ever since he commenced the study of medicine, watched his triumphant passage through the temptation to professional dishonesty, learned to respect him for his great ability and thorough honesty, and to hold him as a dear friend,—one who could be relied upon in times of adversity as well as of prosperity,—it seems but fitting that I should, at the close of this brief account of his fatal illness, express my belief that if he had been spared he would have become one of our foremost surgeons. He certainly had the rare combination of the scientific and the surgical intellect; a taste which drew him most strongly to the cultivation of the abstract sciences of medicine, but an aptitude for practical work which, fostered as it was by circumstances, led him towards the highest practical success; so that he had the largest practice of any man of his age I have ever known in this city.

His greatest fault was his reckless disregard of danger. I have seen him suck out the opened windpipe of a child dying of diphtheria; and once or twice before his last attack he had suffered from septic poisoning. With an immediate object in view, he seemed to lose all sense of personal peril, and, whether as a gymnast upon the flying trapeze, or as a surgeon by the bedside of his patient, self disappeared from his thought. His life thus forfeited is, to some of us, a severe personal loss. How much material he accumulated in the few years of his professional career which can be put in shape for publication I do not know, but there is a series of papers upon the practical value of certain remedies used by the homœopathists, and not employed at all, or employed differently, by regular physicians, which bid fair to be of value, and which may be so far advanced that they can be edited.

H. C. Wood.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 16 TO MAY 29, 1880.

Surgeons J. B. Brown, J. H. Bill, C. H. Alden, and J. S. Billings.—To represent the Medical Department of the Army at annual meeting of American Medical Association, New York City, June 1, 1880. S. O. 107, A. G. O., May 14, 1880.

Vollum, E. P., Major and Surgeon.—When relieved, to report in person to Commanding General, Department of the East, for assignment to duty. S. O. 107, A. G. O., May 14, 1880.

Byrne, C. C., Major and Surgeon.—Relieved from duty in Department of Dakota, and to report in person to Commanding General, Division of the Pacific and Department of California, for assignment to duty in Department of California. S. O. 107, c. s., A. G. O.

Happersett, J. C. G., Major and Surgeon.—Relieved from duty in Department of the East, and to report to Commanding General, Department of Texas, for assignment to duty. S. O. 107, c. s., A. G. O.

De Hanne, J. V., Captain and Assistant-Surgeon.—Relieved from duty in Department of Texas, and to report by letter to Surgeon-General. S. O. 107, c. s., A. G. O.

McElderry, H., Captain and Assistant-Surgeon.—Upon withdrawal of troops from Camp on White River, Col., to accompany them to railroad, and then repair to Fort D. A. Russell, Wyo. T., and report for temporary duty at that Post. S. O. 42, Department of the Platte, May 12, 1880.

Lauderdale, J. V., Captain and Assistant-Surgeon.—Granted leave of absence for four months, with permission to go beyond sea. S. O. 111, A. G. O., May 19, 1880.

Matthews, W., Captain and Assistant-Surgeon.—Relieved from duty in Department of California, to proceed to New York City, and report arrival to Surgeon-General. S. O. 107, c. s., A. G. O.

Harvey, P. F., Captain and Assistant-Surgeon.—Granted leave of absence for four months. S. O. 113, A. G. O., May 21, 1880.

Byrne, C. B., Captain and Assistant-Surgeon.—To report in person, May 30, 1880, to Commanding General, Department of the South, for assignment to duty. S. O. 107, c. s., A. G. O.

Hall, W. R., First-Lieutenant and Assistant-Surgeon.—To report in person to Commanding General, Department of the Missouri, for assignment to duty. S. O. 107, c. s., A. G. O.

Tesson, L. S., First-Lieutenant and Assistant-Surgeon.—Assigned to temporary duty at Cavalry Depot, Jefferson Barracks, Mo., relieving Surgeon E. P. Vollum. S. O. 107, c. s., A. G. O.

Randolph, John F., Major and Surgeon.—Died at Philadelphia, Pa., May 14, 1880.

Yeomans, Aug. A., Captain and Assistant-Surgeon.—Died at Toronto, Canada, May 19, 1880.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JUNE 19, 1880.

ORIGINAL COMMUNICATIONS.

SOME POINTS IN THE PATHOLOGY OF TUBERCLE.

BY J. M. DA COSTA, M.D.

Read at the Meeting of the Pathological Society of Philadelphia, April 22, 1880.

IN attempting to put together some thoughts on the pathology of tubercle, it will be necessary, however briefly, to refer to the unsettled state of the question in the best medical minds of the day. Immediately following Laennec, nothing could have appeared more firmly fixed than the doctrine he so clearly enunciated. It was impossible to doubt tuberculosis as a specific disease. To have misgivings as to the nature of consumption and its constant association with tubercular destruction was to appear to return to barbaric darkness. Not to separate with clearness the different forms of tubercle was to forfeit all claim to be a pathologist. But we all know what has recently happened. The German iconoclast has been at work. Nobody likes to speak now of tubercular diathesis, of tubercle being a constitutional affection. It is for the most part simply the result of a local inflammation; and cheesy matter, infective process from absorption, irritation in structures abounding in lymphatic tissues, are the complacent phrases of the day, which satisfy most as much now as diathesis, constitutional condition, specific deposit, satisfied most not many years since.

And the local view, if such it may be called, once adopted, has brought with it scores of interesting observations on the inoculation of tubercle; its artificial causation; its production in the lung by inhalation of both tubercular and non-tubercular substances,—observations which are warmly discussed, criticised, adopted, rejected, explained, explained away, and the uncertainties connected with which, quite apart from the other difficulties of the subject, are the cause mainly of the generally disturbed condition of the whole inquiry.

Underlying these observations, or at least closely connected with them, lies the vital question, What relation does tubercle bear to the inflammation? And it is this question particularly that I desire to examine with you a little more fully to-night, and concerning which I shall venture to offer the result of some researches and reflections.

As a necessary introduction, I shall have to examine the evidence on which we pronounce a mass to be tubercular; in other words, what its minute structure as shown by the microscope is. And, to avoid any confusion at the threshold of our inquiry, let me speak of that which we find in undoubted tubercle, in the little, hard, miliary bodies, which may afterwards become aggregated into larger, gray masses. In them we encounter three elements:

Medium-sized, rather shrivelled cells, not very regular in outline, consisting of finely-granular, dense material, with a nucleus small in proportion to the cells, or with several nuclei of similar character. They were once regarded as significant of tubercle, but they are now supposed to be swollen epithelial cells which have undergone retrograde metamorphosis. Mixed up with them are cells less dense and like ordinary epithelium, small cells like leucocytes, and a great deal of granular material of doubtful origin.

Giant cells. These consist of large, many-nucleated cells, which are found at rather an advanced stage of tuberculosis, and are very marked in the acute form. They are of spheroidal shape, and somewhat irregular outline. Great stress has been laid on them as significant of tubercle, but they have been met with in deposits in various tissues of the body, in scrofula, in syphilis, and in merely hyperplasic lymph-glands of those perfectly free from tubercle.* As they grow they send out long, branched processes. With Klein, I believe them to be excessively developed or fused epithelial cells.

The structure in which all these cellular elements are found, especially, perhaps, those last described, is *a fine net-work* like the fine trabecular net-work in the interior of lymphatic glands; and this led to the belief entertained until recently by Rindfleisch, that tubercle is a lymphoid growth. But this is not stating the whole of the manner and arrangement of the cells in tubercle. They are found in the lungs filling the alveoli and infiltrating—generally as small, round cells—the alveolar walls, and leading to very considerable thickening of the latter.

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* Weiss, Virchow's Archiv, lxviii.

To sum up, cell-growths by themselves, not peculiar, but representing different grades of development,—some still rapidly growing, others shrivelling and full of dense matter; all capable of being washed out of a fine reticulum, or accumulating in masses both within and in the walls of air-vesicles,—this structure, this grouping, may be regarded as tubercle. Then there are certain secondary alterations that take place in the tubercular formation and the invaded tissue which must also be mentioned, and which bespeak a retrograde change and low vitality. The main of these changes is a degeneration of the cell-growths, an accumulation of granules and fatty material, and an occlusion of the pulmonary capillaries, probably from pressure, and here and there a fibroid transformation of the giant cells.

Now, what causes all this? Some still maintain a specific non-inflammatory deposit; some say an inflammatory process of slight intensity; others a specific inflammation. I pick up a recent journal, and see that malaria is at the bottom of all this strange cell-growth and rapid decay. I turn to one of this month, and I find in the front of the periodical an article proving that tubercle has its origin in disorders in the trophic centres, and in the middle pages another, showing that it is an accident, the result of the capillary interference, due to altered condition of the blood from the presence of yeast. It is almost needless to say that the bacteria are made to explain the peculiar formations, for how could these patient little beings that are bearing so quietly being made the scapegoats of the pathologists of the last half of the nineteenth century escape having charged to them this additional sin? I turn with eagerness to discussions of the subject replete with learning in societies similar to ours, and there is little but negation. It is not this, and not that, say men who are known wherever medicine is cultivated; and you begin to doubt if there is such a thing as tubercle at all, until the first clinic-room you go into—and see the familiar face, hear the cough, and recognize the well-known signs—confronts you with the stern reality of the awful disease. With all these doubts and gropings after the truth, I may be pardoned if I hold fast to the belief that the process, whatever it be, is something special, though something of which we do not hold the key.

To return from this digression to one part of the subject around which much of what is positive in our knowledge has clustered, and which is of most obvious applicability,—the relation of these mysterious tubercular formations to inflammation.

Now, we all know how the relation of tubercle to inflammation has engaged the attention of the present generation of pathologists. Yet the consideration of the question long antedated them; and the much-neglected observations of that sagacious thinker, Addison, are really the key-note to many of the views now brought forward under other names. But this is a historical issue, with which we cannot further concern ourselves here. The active discussion of the matter started with the observation of Virchow that the caseous matter previously regarded as infiltrated tubercle might originate from the fatty degeneration of diverse morbid products, and was non-tubercular; indeed, that the gray granulations alone were tubercular and non-inflammatory. Niemeyer expanded this thought, and engrafting on it the doctrine of Buhl, of the infection of tubercle, promulgated the view that the lung consolidation and destruction were most commonly inflammatory, — the result of the caseous pneumonia,—and the tubercle, when met with, quite secondary and accidental. Indeed, to carry out Niemeyer's ideas logically, the inflammation is, in the vast majority of instances, everything, the tubercle nothing.

The doctrine of Buhl has been alluded to, that tuberculosis—as seen, for instance, in its most typical form of miliary tubercle—is due to infection from masses of cheesy material. The infection happens chiefly through the lymphatics. This infection theory led to numerous experiments on animals, with the result that inoculation in rabbits and guinea-pigs with fresh miliary tubercle, with cheesy matter, with the sputa from tubercular patients, has been followed by acute miliary tuberculosis. Moreover, going still further, Cohnheim and Fraenkel have shown that it is unnecessary to inoculate with these special matters, for in rabbits and guinea-pigs the formation of any focus of suppurative inflammation may fill the viscera with tubercles.

With reference to these experiments, it has been pointed out that the kind of animal on which they are made has much to do with the result. Rabbits and guinea-pigs are particularly prone to tuberculosis. Yet, as regards inoculation with tubercular matter, it has also succeeded on other animals, as in the experiments of Böllinger on goats.*

Another group of experiments must be alluded to,—those in which pulverized tubercle and cheesy matter have been forced into the lung by inhalation. These have been followed by tubercular-looking nodules; and so have, as Schottelius† has recently demonstrated, inhalations with non-tubercular substances, such as pulverized calf's brain and cheese, produced apparently identical bodies. They are the result of inflammatory irritation. But, microscopically examined, they do not present the appearances of tubercle.

Summing up all the experimental observations, they seem to me to prove that tubercle may be transmitted by inoculation either of true tubercular matter or so-called caseous pneumonia; that resorption of tubercle and infection of previously healthy parts is a view sustained by evidence; that the production of tubercle from non-tubercular material, either by inoculation or by inhalation, is not proved. Inflammatory nodules arise, but they have not the structure of tubercular formations.

I shall now attempt to answer the question what is the exact nature of those inflammatory changes in the lung which give rise to destructive consolidation, supposed to be non-tubercular, yet from which, by infection, tubercle may come. In other words, I shall endeavor to describe the histology of so-called "caseous pneumonia," or pneumonic phthisis. We find within the alveoli an accumulation of large cellular elements, mixed with leucocytes and exudation matter. We observe the alveolar walls thickened and infiltrated with cells, the vessels compressed, accounting for the breaking down of the bloodless masses accumulated in and around the alveoli. We meet with inflammatory infiltration in the walls of the bronchi, and, as Rindfleisch has so well pointed out, around them, as well as with increased connective tissue between the lobules and around the finer bronchial tubes. In studying the cellular masses we encounter the so-called giant cells. There is, indeed, nothing we do not find in this caseous pneumonia that we have not spoken of in tubercle, only the proportions are different and the admixture of the elements of inflammation more marked. These changes spread usually over a large portion of the lung, and, especially as regards the amount of connective tissue, are modified by the duration of the disease. One of the most striking of the lesions, and one which I have rarely failed to encounter in the many specimens examined, is the infiltration with small cells of the walls of the alveoli. Green,‡ too, regards them as very important, and Wilson Fox§ looks upon them even as tubercular. As the cheesy matter degenerates, evidences of broken-down tissue, with considerable granular detritus, meet the eye. Yet Cohnheim|| has recently told us that the cheesy part contains in reality but little fat.

Now, is there anything in all this which broadly separates this so-called caseous pneumonia in its minute structure from tubercle? Is there anything more than the evident admixture of a marked inflammatory lesion? Is there anything in the low vitality of the mass and its tendency to decay and fall asunder which is different? And if we call this affection at once "tubercular pneumonia," we are, I verily believe, much nearer to the truth than in endeavoring to separate it from tubercle altogether.

But it is not simply on histological grounds that I arrive at this conclusion. I have long studied the subject clinically, and I can record it here as my deliberate opinion that the number of cases of consumption which are supposed to have inflammatory beginnings is grossly exaggerated. They are the exception, not the rule; and even in the cases in which we have had evidence of an active bronchitis or pneumonic condition having seemingly been the start of all the difficulty, how often do we not find, on close analysis, that failing health, hacking cough, even slight spitting of blood, have preceded the acute symptoms? Then, too, we may get the history of inherited scrofulous or

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* Mittheilungen aus dem Pathologischen Institute zu München, 1878.

† Virchow's Archiv, lxxiii., 1878.

‡ Pathology of Pulmonary Consumption, 1878.

§ Transactions of Pathological Society of London, 1873.

|| Die Tuberkulose vom Standpunkte der Infektionslehre, 1879.

tuberculous diathesis. But I do not wish to be misunderstood. There are cases in which none of these qualifying elements can be discerned, which have, to all appearance, started in an acute inflammatory process. It is only the relative frequency of these cases that I am denying.

Again, I ask, what becomes of the instances of so-called pneumonic phthisis? Do they not become tubercular? How many autopsies can any one recall, where persons dying from some intercurrent affection, while laboring under so-called pneumonic phthisis, did not show at some portion of the lung, or in the other lung, miliary tubercle or larger masses which everybody would pronounce undoubted tubercle?

Now, admitting the connection of so-called "caseous pneumonia" or "pneumonic phthisis" with the subsequent development of tubercle,—and nobody denies this, whatever his views as to the character of the connection,—I believe that it is quite as logical to reason from the after-appearance of the tubercle as to the primary character of the so-called inflammation, as to reason from the inflammation and the absorption of its products to the formation of the tubercle. The reasoning backward is as good as the reasoning forward, and, I think, infinitely more likely to be true.

Again, how many cases of ordinary pneumonia happening in perfectly healthy persons are met with which pass, no matter how, into tubercle? Certainly not many. When it occurs there is generally the history of scrofula or tubercle in the family, the taint. Many of the advocates of the inflammatory origin of tubercle, or of its subsequent development after inflammation, tacitly admit this when they speak of the inflammation as special or specific. If it is special or specific, I say at once it is tubercular,—tubercular either from the onset, or it has become so when it presents the appearance of caseous changes.

I am advocating, then, the view that caseous pneumonia leads to tubercle elsewhere, because it is really tubercle already; and that it is not the products of ordinary inflammation, but the tubercular products, which infect. They may appear with the inflammation or be the result of a special kind of inflammation; that does not affect my argument.

Now, one great difficulty in admitting this argument is, that since the researches of Virchow have familiarized us with the facts we cannot assume all kinds of caseous degeneration as tubercular. We know that such changes may happen in purulent collections, in cancer, and that, microscopically, they present the features of the so-called cheesy degeneration which attends pneumonic phthisis. But is there nowhere else similarity of appearance without identity of meaning? Can we tell every case of cancer, under all circumstances, by its cell-growth alone? Are there no healthy textures in the course of formation that look like it? Does every sarcoma present infallible features at all its stages? Moreover, I have already stated that we very generally, nay, almost constantly, find in the pneumonic lesion much the same elements, mixed with the products of degeneration, which we recognize as tubercular in undoubted tubercle.

I believe, then, that pneumonic phthisis is a tubercular pneumonia, and that the inflammation is tubercular from the onset, or has acquired a tubercular nature by changes in the cell-life which we do not understand. Perhaps these are connected with sluggish tissue-change under the influence of a virus,—a taint inborn, or acquired by impure air and bad hygienic surroundings. That we cannot see these things in the protoplasm or cells with even our highest powers is no proof of their non-existence. Do we perceive the manly form of the athlete in the little spermatozoon? What do we find in the ovum to explain the transmission of the delicate features and matchless figure of one generation to the famed beauty of another? Where are, in either germs, the lurking tendencies to disease which we see constantly reproduced in families? Where the specks that indicate cancer, scrofula, tubercle, gout?

The tubercular inflammation may appear as such, and then we have a more or less acute character of case; or the tubercular action may not start for years afterwards. I shall show you some drawings taken from cases that I had watched for years.

Here is one from a woman of 45, who, under my observation, had for eight years a chronically-consolidated lung, non-tubercular. Sorrow overtook her, her general health failed; struggles with poverty came, and she became tubercular. You perceive here how the lower lobe of one lung had undergone the caseous change and contained tubercles, while the upper is simply dark with pigment and densely consolidated. A few scattered, comparatively recent miliary tubercles are found in the other lung.

Here is a yet more striking instance, where a man had for five years a lung which, you see, looks exactly like the red hepatization of ordinary pneumonia. Softening, without a vestige of tubercle, is occurring in parts. In a streak at the upper lobe tubercular pneumonia is evident; the other lung is entirely healthy.

Perhaps the views here advocated may appear to call in doubt the transmission of tubercle by resorption and infection,—its constant reproduction, as it were, and scattering through the system. But they do not. These observations are among the best sustained and most valuable in modern pathology, and they are all the easier to understand if we admit the starting-point of the infection to have been a tubercular inflammation. As a contribution to this doctrine of infection and absorption, and also as furnishing many points of analogy with the instances mentioned where inflammation of the lung has been followed by tubercular formations, let me show the remarkable specimens of abdominal tumors and tuberculosis on the table, taken from cases of mine that happened some years since at the Pennsylvania Hospital.

In the first case, occurring in a man the subject of syphilis, and much tormented with abdominal pains, a hard tumor was discovered in the right iliac fossa. This was followed, after some months, by marked emaciation, sweats, diffused abdominal tenderness, diarrhœa, and signs of deposit in the lungs. At the autopsy the mass you see here of dense fibrous tissue was found in the right iliac fossa, below the head of the colon; a small cavity containing pus was detected in its interior; on its exterior were tubercular nodules. The intestines, on their peritoneal surface, throughout their length were thickly studded with tubercular nodules; the mesenteric glands were enlarged and softened; there were miliary tubercles in the lungs.

In the second case, a man also broken down by syphilis, there was the same history of colics and cramps, and a tumor was discovered in the right iliac fossa, three inches from the crest of the ilium. He had noticed the tumor for years. Gastric irritability, tenderness over the abdomen, ascites, diarrhœa, fever, cough, signs of lung-consolidation, became gradually prominent symptoms, and he died exhausted. A thick, firm mass of inflammatory matter was found covering the cæcum, and had occasioned the tumor. At one part, on the outer and lower wall of the cæcum, was a small cavity containing gelatinoid matter mixed with black, thin fluid. The ileum above the ileocæcal valve, as well as the inflammatory, hard tissue in this region, was covered with tubercles. The kidneys contained tubercles; in the left supra-renal capsules were several tubercular nodules. The lungs were full of small, gray, tubercular granulations.

Here, then, are two cases of strange similarity, in which a local inflammation in the abdomen was followed in time by diffused tubercle, both abdominal and pulmonary. But let us return to what I more particularly meant to discuss,—the formation of tubercle in the lungs, and its bearing on the different kinds of phthisis, especially pneumonic phthisis.

Will the views which I have endeavored to bring before you do away with the clinical distinctions concerning which we hear now so much? Not at all. If the so-called pneumonic phthisis has a separate history, gives points for special diagnosis and prognosis, requires different treatment, it ought, no matter what our views of its real pathology, to be recognized as a distinct form. But let us go no further; we are leaving the broad highway for rough and tortuous paths when, as is the tendency of the present day, we attempt to sweep all cases of lung-destruction into the phthisical category.

What do we gain by reverting to a very old nomenclature, and by making phthisis a generic term? To carry this out, we ought even to abolish the word cancer, and speak of it as cancerous phthisis, for surely there is also destruction of the lung enough in pulmonary cancer. The consequence of all this agitation about the word is nothing but confusion. Scarcely two persons seem to use phthisis in the same sense. There are forms of lung-destruction which are clearly non-tubercular; let us give them their special names, and not apply to them a term which has long been applied to that by far most common form of lung-destruction,—phthisis from tubercle. Pneumonic phthisis may be made a separate variety; but that ought to be all. Nay, I venture to suggest whether, in view of the idea long associated with the name of phthisis, and of what I still humbly believe is beyond comparison the most frequent cause of the consumption, it will not be better, unless some other form is particularized, still to retain the name for the tubercular malady, and to so understand it.

But I have claimed your indulgence long enough, and, in bringing these remarks to a close, I can only hope that some train of thought may have been suggested by them which your labors will brilliantly elucidate. *E scintilla lux;* from the flickering glimmer of to-night I trust through others for the steady glow on a subject that sadly needs light.

DIPHTHERIA—SOME CASES HAVING A BEARING UPON ITS METHOD OF PROPAGATION.

BY J. HOWARD MORGAN, M.D.,
New York City.

IN the second and third weeks of December, 1874, in a brown-stone house on the south side of East Fifty-fifth Street, between First and Second Avenues, diphtheria attacked the five children of Mr. M., occupying the first floor and basement, and speedily proved fatal to three of the number.

Immediately after the first death, Mr. and Mrs. B., occupying the second floor and part of the third, became alarmed for their four children, and, acting under advice, moved them, and soon followed themselves, to the residence of Mr. B.'s father, in West Fifty-third Street. In all the rooms thus vacated carbolic acid as a disinfectant was freely placed, and thorough ventilation was had by keeping the windows open at both top and bottom. The Board of Health had the house examined, and found some defects in the sewage-pipes, which were remedied, and vent-pipes run up to the roof.

These changes having been made, and Mr. M.'s surviving children having recovered except from paretic sequelæ, Mr. B.'s family returned to the house in the second week of January, 1875. In the evening of January 15, Lulu B. complained of slight headache, and was feverish. When I saw her next morning, the pulse was 124 per minute, the tonsils and vicinity were congested, lymphatic glands at angles of jaw swollen and tender, as also the parotid glands, so that the face appeared slightly broadened, and there was slight pain on opening the mouth wide. January 17, pulse 136 and glands about as before, but otherwise she seemed better. Under a simple anti-fever mixture and the use of chlorate of potassium, both internally and as a gargle every hour, these symptoms completely subsided in two or three days without there having been any appearance whatever of diphtheritic spots in the throat.

All the children were carefully kept from Mr. M.'s apartments until March 10, when Mrs. B. permitted Lulu and Willie B., aged respectively $4\frac{5}{12}$ and $2\frac{3}{12}$ years, to go down and play with Mr. M.'s children (who were still suffering somewhat from paresis) in the room where they had been sick. This visit was repeated the next day, March 11. Sunday afternoon, March 14, Lulu B. (a bright, strumous child) became feverish and had some nasal catarrh. At 10 A.M., March 15, the pulse was 140, the axillary temperature 104.4° F.; there was a considerable thick, mucous discharge from the nostrils; the velum, uvula, tonsils, and posterior wall of pharynx were congested, and on both tonsils and immediately behind the left tonsil were whitish spots; the cervical glands at the angles of the jaw were swollen and tender, especially on the left side. At 8 P.M., pulse 160, temperature 104.3° F.; spots in throat about the same; swelling and tenderness of glands more decided. March 16, 12.30 P.M., pulse 122, temperature 99.6° F.; specially marked swelling over left angle of jaw and side of neck; nostrils freer, but discharged much mucus and muco-purulent matter; diphtheritic patches on both tonsils, immediately behind the left tonsil, and on velum and uvula. Later in the afternoon vomiting (which had occurred a few times on the 15th) became so prominent a symptom that no medicine and scarcely any nourishment could be retained in the stomach.

March 17, pulse 128, temperature 100.8° F.; the swelling over angles of jaw and sides of neck increased greatly during the day, and symptoms of septicæmia became manifest. She rapidly failed, and died quietly at 2.35 A.M., March 18.

The irritability of stomach in this case was from the first so marked and so persistent that only local remedies could be depended on,—*e.g.*, syringing the nostrils with a solution of chlorate of potassium and carbolic acid in alcohol and water, frequent brushing of the throat with a mixture of liq. ferri subsulph. and glycerin, and giving bits of ice by the mouth. Quinine and beef-tea were given per rectum. Another point of interest ought not to be omitted. Summoned suddenly five or six hours before her death, I found her respiration very faint, slow, and irregular, the pulse fluttering, eyes fixed, and everything looking as if life could last but a few minutes. Happening to have a solution of atropia with me, I injected hypodermically about gr. $\frac{1}{200}$. In about ten minutes the respirations began to be deeper, more frequent, and regular; the pulse became stronger. She soon roused sufficiently to notice those about her and to answer some questions, and took some brandy and water. This very manifest improvement lasted nearly three hours. Then the pulse and respirations began to fail again. A repetition of the hypodermic in a little smaller dose was followed by a similar improvement, which lasted, however, less than two hours, and it then soon became evident she was passing beyond the reach of remedies.

March 15, in the afternoon, Willie B. began to complain, and at 8 P.M. had much nasal catarrh, congestion of throat, with small whitish spots in pharynx and on tonsils; pulse 150; temperature 102.4° F. March 16, membrane formed on tonsils and adjacent surface; cervical glands enlarged and tender. March 17, membrane thicker and somewhat more extended on surface adjacent to tonsils. March 18, 12 M., pulse 140, temperature 102.3° F.; Dr. J. Lewis Smith called in consultation. March 19, 11.30 A.M., temperature 100.4°; 7.30 P.M., pulse 116, temperature 100.5°. March 20, 12 M., temperature 101.1°; 8.45 P.M., pulse 116, temperature 100.5°. March 21, 1.30 P.M., pulse 124, temperature 99.4°. March 22, 8 A.M., pulse 105, temperature 98.9°; 9 P.M., temperature 98.2°.

I omitted to make a note when the membrane disappeared, but believe it was on March 23. There were no complications, no albumen in urine, no symptoms of laryngeal obstruction or of blood-poisoning, nor any sequelæ. The recovery was rapid.

The treatment mainly consisted in brushing the throat every two hours with a mixture of liq. ferri subsulph., three parts, and glycerin, five parts; syringing the nostrils every three or four hours, at first with the solution, as in the preceding case, but afterwards, at Dr. Smith's suggestion, with the above mixture of iron and glycerin somewhat diluted; and giving internally tinct. ferri chloridi, ♏vj, and quiniæ sulph., gr. iss, in glycerin and water every two hours, so as to alternate with the throat-brushing; chlorate of potass. was also frequently given at the intervening half-hours.

March 18, the child's aunt, aged 25 years, came over from West Fifty-third Street and took the principal care of him through the day and night, returning home on the morning of the 19th. On Saturday, the 20th, she came again to pass the night with him, and remained until after the funeral of Lulu B., on Sunday afternoon. During Saturday night she was quite chilly; by Sunday noon felt feverish and had a flushed face. During the afternoon she complained some of pain on swallowing; in the evening this was more annoying, and the tonsils and vicinity were quite red and looked suspicious. Monday morning (March 22) diphtheritic patches were visible on left tonsil and on posterior wall of pharynx, and by noon she had a raging headache; fever (pulse 124, temperature 102.5°), sharp, sticking pain on swallowing, slight swelling and marked tenderness of cervical glands, pain in back and limbs, and great restlessness. 8 P.M., pulse 108, temperature 102°; March 23, 6 A.M., pulse 94, temperature 100°. At 1 P.M., pulse 110, temperature 102.2°; membrane had extended so as to cover almost the entire left tonsil; there was a small patch on the *right* side of the posterior pharyngeal wall, and a faint veil on the right tonsil and the uvula; fever was treated by wet sheets. 10 P.M., pulse 96, temperature 99.7°.

March 24, 7 A.M., pulse 87, temperature 99.1°; 2.45 P.M., pulse 94, temperature 99.9°; no headache; diphtheritic membrane less extensive; 11 P.M., pulse 84, temperature 98.3°. On Thursday, March 25 (6 A.M., pulse 82, temperature 98.4°),

the membrane disappeared, and she progressed favorably till the afternoon of March 29, when she was suddenly attacked with very severe neuralgic pain in right side of thorax. Relieved by hypodermic injection of Magendie's solution of morphia, it returned when the morphia influence began to wear away, and was again relieved for a considerably longer period by combining sulph. atropia with the morphia. In the next two or three days this pain, from being shifting now here now there, became located so persistently in the infra-axillary region and so continuous that pleurisy was feared, and poultices and, at Dr. H. T. Hank's suggestion, dry-cups were applied. But in two days more the pain shifted to the left side, and became distinctly intermittent, coming on at certain hours with considerable regularity. Under careful and timely use of hypodermic injections these attacks of pain—which were most intensely severe—became less and less frequent, and finally ceased, April 9. Subsequently she was troubled for a day or two with myalgia in the muscles of right side of neck and right shoulder.

The treatment for diphtheria consisted in giving tinct. ferri chlor. ♏x in glycerin and water, āā ʒss, every hour until the membrane disappeared, injecting it by means of a glass syringe directly against the diseased surfaces, and allowing it to be swallowed. It should be added that this aunt had long been subject to chronic follicular pharyngitis.

The servant-girl, who was much with Willie B. during his illness and was subject to sore throat, had, as he was recovering, some pharyngitis and tonsillitis, but no diphtheritic appearances.

All the members of the family were directed to use chlorate of potass. gargles freely upon the slightest appearance of irritation.

While the aunt was sickest, her mother (who also had been over to East Fifty-fifth Street to help what she could, and was greatly worn by anxiety) began to have sore throat, and two or three whitish spots appeared on one tonsil, but all speedily disappeared under the use of a chlorate of potass. and carbolic-acid gargle.

In these cases the following points seem worthy of note, viz.:

1st. The tenacity with which the diphtheritic poison clings to apartments, as instanced in Lulu and Willie B. taking the disease after playing in the room where Mr. M.'s children had been sick over two and a half months before.

2d. Under the same external influences we have occurring cases of diphtheria, pharyngitis, and tonsillitis.

3d. The incubation in the diphtheria cases was,—in Lulu B., three or four days; in Willie B., four or five days; and in the aunt, between two and three days.

4th. The aunt, in whom the incubation was shortest, was subject to chronic pharyngitis.

5th. The temperature in each case rose to its highest point within the first twenty-four hours, and thence more or less rapidly fell off. The temperature record in the second case is, however, wanting on the second and third days.

6th. Neuralgia may be a sequela to diphtheria, an observation I have not seen noted elsewhere.

7th. The power of atropia to revive the failing respiration and pulse in a state of collapse.

BILATERAL PARALYSIS OF THE GLOTTIS-OPENERS.

BY REINHARD H. WEBER, M.D.

THE physician acquainted with the physiology of the larynx will at once comprehend the danger to life arising from paralysis of the musculi crico-arytenoidei postici, whose functions as openers of the glottis are so essential to life.

The writer of this prefers the term *openers* of the glottis to the term relaxers of the glottis, as he has found these muscles named in a recent English work on diseases of the throat (Browne), as the term *openers* of the glottis will impress at once the importance of their functions, and at the same time convey much sooner to the mind the proper idea of an active contraction than the term *relaxers* would do.

For my purpose it will be enough to remind my readers of the physiological fact that at every sound uttered by us the glottis is nearly closed by the musculi crico-arytenoidei *laterales*,—the *antagonists* to the above-named openers of the glottis,—and that for each inspiration the vocal cords must be actively separated by the action of these openers upon the arytenoid cartilages, which latter must be rotated outward and backward by them, producing in this way the large and diamond-shaped opening of the glottis, as we see it at each normal inspiration. If, now, the functions of these openers are not performed, the glottis remains but a narrow slit, and upon forcible inspiratory efforts this slit will become still more narrow, by the excess of the external atmospheric pressure over that of the air contained in the trachea, rarefied by the expansion of the thorax. If expiration now follows, the glottis will return to its original size, and expiration is little interfered with. In complete bilateral paralysis of the openers of the glottis, there is therefore established "*a true stenosis of the glottis of the highest grade, with danger of asphyxia.*"—Ziemssen, vol. vii. p. 959.

According to the great authority just cited, our knowledge of this important lesion dates only from the year 1862, when the first case was published by Gehrhard, and, as Ziemssen himself has been able to collect nine cases only (all doubtful ones being excluded), I consider it my duty to publish the following case, which has come under my observation:

On April 24 I was called to see Mr. M., tailor and musician, aged 37 years, and the following history was communicated to me by his wife:

Mr. M. has often had attacks of hoarseness for many winters past, lasting only a few weeks; but in the last two years his hoarseness has increased and become permanent. Four months ago, cough, night-sweats, and loss of flesh had set in and become more and more decided. Since the day before yesterday a constantly increasing dyspnœa had alarmed him very much, as it prevented him from lying down, so that he had been obliged to pass the last two nights sitting upright in his chair.

Nothing in his history pointing to syphilitic contamination could be elicited. Physical examination of his chest revealed cavernous breathing in both apices of the lungs, with quite distinct cracked-pot sound on percussion. The rest of his lungs appeared to be in an almost normal condition. The difficulty in his breathing, which was evidently only active during inspiration, caused a loud crowing noise similar to that often heard in whooping-cough or during an attack of laryngismus stridulus, while his expiration was comparatively noiseless. These facts induced me at once to make a laryngoscopic examination. This showed great redness of the epiglottis, as well as of all the mucous membrane of the larynx visible, though no marked swelling or œdema of the glottis; but there was hardly any separation of the vocal cords during inspiration, the glottis remaining but a narrow slit hardly one line wide, and the greater the patient's inspiratory efforts, the smaller the slit became. On making him sound a vowel, the glottis closed perfectly, with the effect of perceptibly increasing his dyspnœa for several minutes. There could be no doubt now about the diagnosis,—b lateral paralysis of the musculi crico arytenoidei postici.

The patient was then told that tracheotomy was the only measure from which he could expect relief, and that no medicines could alleviate his dyspnœa. As he could not make up his mind as yet to submit to so serious an operation, he preferred to wait, and promised to send for me in case he should be threatened with suffocation.

Five days later (on the 29th of April) I received a message, early in the morning, to come as speedily as possible, as the patient now wished the operation to be performed. On my arrival I found him still sitting in the chair, which he had not been able to leave now for seven nights, and with his dyspnœa so much increased that every inspiration was accompanied by a howling sound. This loud noise made an accurate examination of his lungs impossible, but enough was heard to make certain the diagnosis of commencing pulmonary œdema, in consequence of the long-continued and constantly increasing rarefaction of the air in his lungs. His face and lips were cyanotic, his pulse weak and frequent; his respirations were thirty five in the minute. A laryngoscopic examination revealed the same state of the larynx as at the former examination, only a little more swelling of the parts, but the slit of the glottis still more narrow during inspiration. I now performed crico-tracheotomy upon him, being assisted by Drs. Joseph Thoerper and Gustav Biver, of this city; but an operation surrounded by so many difficulties will, happily, not often fall to our lot. First, the patient was not able to bear the anæsthetic, his pulse almost disappearing after a few inhalations of chloroform. It was then necessary to perform the operation without an anæsthetic; but now a still more serious difficulty presented itself, as the patient could not remain in the recumbent position longer than a few seconds, when he jumped up, grasping his throat, and gasping for air. Nothing was left to be done but to complete the laying bare of the trachea and cricoid cartilage while he was kept in the sitting posture; and here I was frequently interrupted, as he was not able to bear for any length of time the least pressure on the larynx or trachea, such as was unavoidable in keeping the cut structures open by means of blunt hooks. The most serious difficulty was the hemorrhage, the blood oozing constantly out of the cut structures. No large vessel had been divided; the thyroid veins had been carefully drawn aside with blunt tools; but in consequence of the great venous stasis, caused by the asphyxiated condition of the patient, the hemorrhage could not be arrested. After having tried in vain pressure and different styptics, I was obliged to open the cricoid cartilage and several rings of the trachea amidst considerable bleeding, and consequently the aspiration of blood by the patient was unavoidable. There now followed a fearful struggle for life, which I believe to have lasted for from two to three minutes; but the patient succeeded in coughing up and expectorating through the canula the blood he had drawn in, and, as soon as a more plentiful supply of air had begun to influence the circulation, the hemorrhage became insignificant, and gradually ceased altogether.

I should here mention that efforts had been made to suck out the blood by means of a flexible catheter, but without any success. And here is the place to express my conviction—which is shared by the physicians assisting me—that had this patient been under the influence of an anæsthetic while his trachea was being opened, he would have been doomed to death, as he would not have been able to expectorate the blood he had drawn in if his perceptive centres had been kept blunted by an anæsthetic.

Led by the experience of the case just related, and by the fact that at least two cases have come to the writer's notice where tracheotomy performed on children for croup has terminated fatally, under the hands of the operators, by the aspiration of blood into the lungs, and while the children were under the influence of ether, I would suggest for consideration whether it would not be better to use an anæsthetic to facilitate the laying bare of the trachea only, and then to allow the patient to recover from the influence of the anæsthetic sufficiently before the trachea is opened, that he may be able to make voluntary exertions for the expectoration of the blood which, in most operations done under the pressure of severe dyspnœa, will unavoidably be sucked in.

The relief to Mr. M. from the operation was great, as half an hour after the introduction of the canula his respirations had sunk from thirty-five to twenty-two per minute. He was now able to rest in the recumbent position, and passed the following night in bed for the first time in a week. Upon my questioning him, the following morning, as to how he felt, he wrote upon a slate, "I feel very well, only the cough troubles me." By means of small doses of morphia his cough was relieved, and under the use of good nourishment and tonics his general condition has so much improved that he is already able to sit up all day, giving ground for the hope that he will soon be able to take exercise in the open air, and that his life may yet be considerably prolonged by the operation.

At the date of writing this, nearly four weeks have elapsed since the performance of the operation, and during this time I have made a laryngoscopic examination at least once a week. The first two of these examinations showed the glottis to be in the same state of stenosis as before, but in the last two examinations a change was found, consisting in the remaining open of a triangular space in the posterior third of the glottis, pointing to an extension of paralysis to the arytenoidei muscles.

Although the etiology of the bilateral paralysis of the glottis-openers in my case must remain somewhat doubtful, I hope most of my readers will agree with me in supposing that the most probable cause in this case has been a perichondritis of the cricoid cartilage, caused by tubercular ulceration of the larynx. Therefore the paralysis must have been more of a *myopathic* than of a neuropathic nature. How long this paralysis will last, and consequently how long my patient will be compelled to wear the canula in his trachea, it is impossible to tell at present. The use of electricity, which in cases of neuropathic origin has effected a cure (Ziemssen), seems to me inadmissible as long as ulceration in the larynx is suspected.

Happily, the only inconvenience which my patient has to suffer from the presence of the opening in his trachea is the hinderance to speech, and this be temporarily obviates by closing the opening of the canula with his thumb, which enables him to talk in an audible though very hoarse voice.

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TWO CASES OF COAL-GAS POISONING—ONE FATAL, THE OTHER TERMINATING IN RECOVERY.

BY J. M. ANDERS, M.D.

ABOUT 6 P.M. on the evening of February 14, 1880, I was summoned in great haste to the residence of Dr. R., of Philadelphia. On my arrival one of the neighbors present informed me that the doctor and his servant-girl were both found on the floor, the girl in the dining-room and the doctor in his bedchamber. On reaching the doctor's bedchamber I found my friend Dr. Loeling already in attendance. Dr. Loeling and myself concurred in the opinion that we had to deal with coal-gas poisoning, which I shall hereafter attempt to prove. According to my note-book, the symptoms in the doctor's case were as follows:

Countenance excessively pale, slightly livid; general surface of body cool, and extremities quite cold to the touch; skin bedewed with moisture. The patient was frothing freely at the mouth. The eyes had lost their natural brilliancy, cornea looked dull and opaque,—almost as in death; pupil very slightly contracted. There were slight convulsive movements when we first saw him, but they quickly gave place to complete insensibility. Respiration was somewhat noisy and slow, the rate being about eight per minute, and it was also very superficial. Pulse almost imperceptible, and so rapid that the rate could not be noted. Dr. Loeling remarked that when he arrived the doctor was absolutely pulseless. The fresh air which had been supplied and other efforts at resuscitation had already caused a slight improvement in his circulation. There was no vomiting, but occasionally slight retchings. When auscultated later, after decided improvement, large moist râles were heard over the front of the chest, with feeble respiratory murmurs, indicating a congested state of the lungs.

The treatment consisted chiefly in the sedulous practice of artificial respiration; the admission of fresh air; application of cold to the head, sinapisms to the extremities and epigastrium, and hot bottles to the sides of the chest and the extremities. In fifteen minutes improvement was quite apparent. The breathing had increased in rate and fulness. The pulse had fallen to 120 per minute, but it was still very feeble.

At 7.30 P.M., about one hour after treatment was begun, he could be aroused to consciousness without much difficulty, and he answered questions rationally. A few minutes later he asked to be left alone, as he wished to rest. Respiration was now about natural; frothing at the mouth had ceased; pulse about 84 per minute, but weak. Our patient being now in good condition and out of all danger, we abandoned all medication and left him, comfortable though considerably exhausted. Meanwhile, the servant-girl down-stairs, whose double misfortune it was to be first poisoned with the gas and then to fall into the hands of a homœopathic savant, had died. This patient was not seen by me during life. The treatment employed in her case is not known to the writer, but some non-professional persons present stated that medicines of some kind had been administered. It will have been observed that the doctor's case was treated without the exhibition of any drugs.

I made a momentary inspection of the girl's body immediately after death. There was marked pallor of countenance, but face placid; eyes prominent, pupils somewhat dilated; no livid spots observed at the time.

The important question as to the cause of illness of these two persons—serious in the first case and fatal in the other—is next to be discussed. When Dr. Loeling entered the house there was quite a noticeable smell of coal-gas, and when I arrived the peculiar smell of this gas was still perceptible, notwithstanding the free ventilation in the mean time. It should be mentioned in this connection that Dr. Loeling and myself afterwards decided to inspect the furnace, and as the door leading from the kitchen to the cellar was opened a current of air strongly impregnated with coal-gas was encountered. We concluded it would be dangerous to life to descend, and ordered the cellar to be ventilated. An examination of the furnace a few days later showed it to be in pretty good condition, and, searching for the cause of the penetration of the large amount of gas, it was found that there was a large proportion of dirt in the coal used, the supply having run low; also that the damper, which is situated (as is the case with most old-fashioned furnaces) in the flue above the furnace, had been improperly arranged, so that it prevented the escape of the gas by the proper channel, and that the door of the heater had been left open.

Now, all these conditions are highly favorable to the generation of coal-gas, as well as its escape into the cellar and thence through the house. In addition to this strong presumptive evidence that coal-gas was the *materies morbi*, we have equally strong corroborative evidence in the symptoms, they having been those described as belonging to poisoning from this noxious gas, viz., frothing at the mouth, signs of congestion of the lungs, a convulsive tendency followed by complete insensibility, and a rapidly downward progress towards a fatal termination, as shown by nervous prostration, flagging circulation, and absence of caloric. The symptoms in these cases do not correspond with those of poisoning by any drug or known chemical substance except some noxious gas, and there was entire absence of evidence pointing to any other poison, though the bystanders and the public, as is so frequently the case under such circumstances, got a wrong impression, and rapidly circulated the rumor that it was criminal poisoning.

The speedy recovery of our patient, Dr. R., after so narrowly escaping an untimely grave, is also confirmatory. The result of the coroner's inquest over the body of the girl may also be adduced as evidence in support of our opinion, which was to the effect that the girl came to her death from "accidental coal-gas poisoning." An analysis of the contents of her stomach made by an expert chemist revealed no poisonous substance whatever. It should be stated that the girl had a tumor of the brain (the nature of which, so far as I know, was not determined), and this circumstance may have modified the action of the poison in her case. The persons stricken down had taken no food for at least four hours previous to the onset of the symptoms, a fact which would militate strongly against the idea of criminal poisoning.

Now, as no evidence of drug-poisoning appears, and as acute disease is out of the question, the writer feels justified in assuming that the correctness of the diagnosis is established.

TRANSLATIONS.

Esmarch on Bloodless Operations.—At the recent meeting of the Congress of German Surgeons (*Cbl. f. Chir.*, No. 20, 1880), Professor Esmarch returned to a discussion of his method of bloodless operations first brought before the Society seven years ago. This method is still condemned by many distinguished surgeons on account of the parenchymatous bleeding which sometimes ensues after removal of the constricting tube. Since many modifications of his method have been devised with a view to preventing this bleeding, which nevertheless have not attained that object, Esmarch has thought it desirable that he should himself describe his present method of operating, by which parenchymatous hemorrhage is entirely avoided. He describes his procedure in amputations, resections, and necrotomies. After the amputation has been performed bloodlessly, and before the constricting tube is removed, all the vessels are carefully tied, and the wound closed by catgut in a furrier's stitch. Drainage-tubes are placed in position, a permanent compressing dressing is applied, and the stump secured in a vertical position; not until these preliminaries have been attended to is the compression-tube loosened. The patient being put to bed, the stump is retained in a vertical position for half an hour longer. In twelve amputations performed with these precautions, nine of which were in the lower part of the thigh, no hemorrhage occurred, and in most of them the first dressing remained in place until the fourteenth day. When removed at the end of that period, only a thin linear scar remained.

The procedure in resections is essentially the same. In fifty-six cases no death occurred, nor even hemorrhage. In thirty-three cases the continuous dressing was employed, being usually kept on three or four weeks.

In one hundred and forty-eight necrotomies treated in the manner described, the dressing had to be removed in six cases on account of hemorrhage. Small patches of gangrene of the skin also appeared in some cases. Since Easter, 1879, Esmarch has given up the use of tampons after removing sequestra, substituting the sewing up of the skin over the cavity after careful disinfection, and the introduction of a drainage-tube, the compressing gum tube being kept in place till all is completed. In twelve cases thus treated no hemorrhage followed, the wound remained aseptic, and indeed in several cases healed by first intention.

Finally, Esmarch has obtained equally good results by similar procedure in other operations, as removal of tumors, although in some localities, as about the shoulder and hip, bloodlessness is difficult to attain.

In the discussion following the reading of this paper, a number of distinguished surgeons expressed themselves as to the high value of Esmarch's procedure. With regard to the use of hot-water irrigation considerable diversity of opinion existed: some surgeons had found it answer all expectations, while in the hands of others it appeared to have failed entirely.

Repair of Exsected Fragments of Nerves, with Restoration of Function.—At the recent Congress of German

Surgeons (*Cbl. f. Chir.*, No. 20, 1880), Gluck, of Berlin, read a paper on this subject based upon a long series of experiments upon animals, and going to show that plastic operations on the larger nerves can be undertaken with success. Parts of two neighboring nerves have been split off and united crosswise with each other; two entire branches have been cut through and then joined crosswise; and recently neuroplastic operations have been undertaken with success. Gluck excised from the ischiatic nerve of a hen a piece two centimetres in length, and then, excising a somewhat smaller piece from the ischiatic of a rabbit, sewed it in the break, so as to take the place of the lost piece of nerve in the hen. Eleven days after the operation the wound, which had healed by first intention, was opened, and the implanted piece of nerve was found firmly united. When the ischiatic was pinched at a point above the place of operation, the muscles supplied by the nerve were moved to contraction. Central nervous conduction through the foreign piece of nerve was also established. A series of similar experiments showed that the species of animal from whence the foreign nerve was taken made no difference, nor did reversing the direction of the foreign piece of nerve make any difference. It was found essential to the success of the experiments that the wound made should heal by first intention, so that the newly-formed substance should not be more than a millimetre in thickness. Electrical conduction does not appear to be established so early as conduction of painful sensation or of pinching. Gluck thinks that the fibres responding to this excitation do not become regenerated so rapidly as the others.

THE HIGH OPERATION IN STONE.—Petersen, of Kiel (Congress of German Surgeons, *Cbl. f. Chir.*, No. 20, 1880), regards the high operation as the operation of the future. It is to be preferred decidedly to the lateral operation, and is at least equal to the median, since two evils are avoided,—urinary infiltration with subsequent suppuration, and injury to the peritoneum.

In regard to the first complication, suture of the bladder and antiseptic precautions, together with the simultaneous emptying of the bladder by the siphon, guard against this, while injury to the peritoneum may be avoided by inflating the bladder and the large intestine, so that the prevesical fold of the peritoneum is carried up with the bladder high above the pubis. An investigation on ten cases in the laboratory showed this to be the case, and also that the peritoneum rose more readily in fat persons. For every 600 cm. of fluid injected, the peritoneum rises 65 mm. higher above the symphysis pubis.

SOAP AS AN EXCIPIENT FOR MEDICINAL APPLICATIONS.—M. Ceresoli, a pharmaceutist of Padua (*La France Méd.*, p. 283, 1880), objects to fatty materials as excipients for medicines intended for external use, on the ground that they impede the functions of the skin and prevent absorption as well as transpiration. In addition, the fact that fatty matters become so speedily rancid that many substances, as iodide of potassium, cannot be made up into ointments without decomposition, shows that some other vehicle is demanded.

To be sure, glycerole of starch and cosmoline are only slightly alterable, but M. Ceresoli considers his formula as superior to either of these. It consists of a solution, made with heat, of ninety-six grammes of soap in eight hundred grammes of 95° alcohol, which, on cooling, jellies. It may be said, however, of this preparation that, although an elegant one for superficial applications, it is likely to fail when absorption of medicinal substances with the skin is desired, since fatty matters mix better with the sebaceous secretions of the skin than any other preparations likely to be used as vehicles.

A SUBSTITUTE FOR COD-LIVER OIL.—In the case of children who refuse absolutely to take cod-liver oil, Dr. Lamarude recommends the following formula:

℞ Glycerinæ, ℥x;
Tinct. iodini, ♏xxx;
Potassii iodidi, gr. ss.—M.

Sig.—A dessertspoonful a quarter of an hour before each meal.

Under the use of this remedy the appetite returns, and constipation, when it exists, ceases absolutely. In the case of delicate individuals this formula may be modified as follows:

℞ Glycerinæ, ℥viii;
Syr. rubi, ʒxiv;
Tinct. iodini, ♏xxx;
Potassii iodid., gr. ss.—M.

(*La France Méd.*, 1880, p. 279.)

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JUNE 19, 1880.

EDITORIAL.

THE AMERICAN MEDICAL ASSOCIATION.

THE American Medical Association certainly is a remarkable body, and the last meeting at New York certainly was, in many respects, a red-letter day in its experience. It is also plain that the value of these annual meetings as an advertising medium is beginning to be perceived both within and without the profession. The recognition of their importance by certain New York business firms was most gratifying, and when to such clear perception is united the proverbial enterprise of New York, it is no wonder that the great body gathered together stares and admires, and its members scatter to tell how the convention was bought out and pampered by the nabobs of trade.

Probably to none is this more gratifying than to the editorial staff of this journal. We are especially delighted when the American Medical Association can be given a new usefulness; and it was a proud day when we could see American enterprise bearing this august body in triumph as a trophy of its advertising genius,—belling it, as it were, covering it over with placards, and driving it through the streets of New York and the columns of a thousand newspapers.

If Dame Rumor be not uncommonly untruthful, there was a less open exhibition of canniness, which, though it may not easily be paralleled, may be heartily admired. It is asserted that a member of the Committee of Arrangements rented a large portion of the available space so that he might secure room to sublet to the business firms, which, like the foolish virgins, came late, but, unlike the foolish virgins, had an overplus of oil in their—pockets.

It is not, however, solely to commend what has been done, but also to benefit our professional readers, that we have taken pen in hand. We want all our patrons to be upon the level of the shrewdest, and therefore gather up and dispense the latest improvements of the art of success as well as of medicine. It is notably well for John Jones, chiropodist, to have it telegraphed that he read a paper on a highly original, absolutely new, and always successful method of treating incurved toe-nails; judging from the number of titles telegraphed at the expense of the Associated Press, this fact is sufficiently appreciated by the general profession; but certain individuals, whose professional obscurity is enlightened by a most rare advertising acuteness, have discovered a better thing than this: it is to see the special reporter—let us say of the *New York Herald*, or the *Chicago Times*, or the *Philadelphia Ledger*. Thus it cometh to pass that after the bare announcement that Professor Sayre, or Jewell, or Pepper read a paper entitled so-and-so, appears a long analysis of the extraordinary article read, amidst great applause, by Dr. Ignotus.

On, then, to Richmond next year; and if we can learn anything further in this line which shall benefit our patrons, we will be sure to inform them, for the race seems to be to the knowing.

IT is a matter of sincere congratulation that the manufacturers of bogus diplomas seem in a fair way to get their deserts in this world as well as the next. The head of them all is at this moment enjoying the stifling atmosphere of Moyamensing prison, and the lower deities of the infernal circle are under arrest. As the details of the measures adopted are very fully reported in all the daily newspapers, we shall not occupy space with their repetition. The *Record* newspaper seems to have been the chief engine of destruction, and has seemingly accomplished that which our medical colleges ought to have done long ago. It is true there were lions in the way,—high authorities seemingly determined to protect the scoundrels; influences guarding them, powerful and subtle. This affords some excuse; but a few hundred dollars, with a grim, energetic determination that would know no failure, would have sufficed long since.

PROCEEDINGS OF SOCIETIES.

THE AMERICAN MEDICAL ASSOCIATION.

IF the presence of over twelve hundred delegates, plus a large number of members by invitation, be all that is essential to secure a satisfactory meeting, then the thirty-first annual session of the American Medical Association will be set down in the annals as one of the most successful ever held by this body; if the convenience and comfort of those in attendance upon the meeting and the high scientific standard of the communications presented be considered in the calculation, it is not improper to declare that meetings have previously been held at which these objects were better attained.

The first inconvenience was experienced in registration; the quarters provided by the Committee of Arrangements were altogether inadequate. Delegates were crowded into a small, suffocating room, where they were obliged to remain for over two hours before they could obtain their credentials. Some of the members were thus kept from attendance upon the sessions, where their duty required them to be; many, indeed, were not registered until the last day, and consequently were debarred from voting and from attending the entertainments. The quarters first provided for registration were in a small store on Twenty-third Street, and in a remote corner of a room the remainder of which had been economically rented out to about a dozen different firms of pharmacists, publishers, and others. At every step the delegate was accosted by the representatives of drugs, books, medicated soaps, sphygmographs, cosmoline, lactopeptin, extract of malt, surgical instruments, "Ziemssen's Cyclopædia," bromide of ethyl, mineral waters, carbolated baby-powder, liquefied nitrous oxide, patent syringes, with specula and pessaries *ad libitum.* The error was in counting literally without the host, for the room was comfortably full before the delegates arrived; as soon as one delegate entered the apartment was overcrowded. The Committee of Arrangements should have given this entire room for registration purposes alone. As it was, the secretary, treasurer, and corps of assistants were obliged to leave this room on the first day, as it became so hot and suffocating as to resemble a modern Black Hole of Calcutta.

The second error was in allowing the drug men and one publishing firm, in their business capacity (and for advertising purposes), to take the Association to the theatre and on a steamboat excursion.* It was *infra dignitate* on the part of the medical profession in New York to offer, and on the part of the American Medical Association to accept, such questionable hospitality. The members who are in the habit of bringing ladies with them also had reason to feel slighted by the information that, at the private receptions given to the Association by Mayor Cooper and August Belmont, the ladies were not expected. Several lady delegates, members of the Association, considered this as a personal matter, and, to appease them, Dr. Mary Putnam Jacobi especially invited them to a tea-party at her own residence upon the same evening. They were not so treated at Buffalo or at Atlanta.

In the third place, the programme, instead of being placed in the hands of each member on the first day, was printed in daily instalments. The consequence was that a man could not learn until noon whether he was to read a paper in the afternoon or not; and, in fact, on the last day no programme whatever was distributed. It is understood that the Committee of Arrangements were overburdened with work, and were expected to provide for the reading of about two hundred papers in three afternoons. It is true that they changed the hour of meeting of the sections from three o'clock to two o'clock P.M., and created a temporary section for diseases of children, in order to dispose of this superabundance; but truth also compels the admission that for social comfort and thorough satisfaction this New York meeting was not a brilliant success, judging, at least, from a provincial stand-point.

BUSINESS SESSIONS.

On Tuesday, June 1, the Association was called to order in the Hall of the Young Men's Christian Association, Twenty-third and Fourth Avenue, New York City, and the Thirty-First Annual Session was opened by prayer offered by the Rev. W. F. Morgan, D.D. Dr. T. Gaillard Thomas delivered a very pleasing and eloquent address of welcome. Dr. Lewis A. Sayre, President of the Association, delivered the annual address, in which he traced the good influence flowing from the establishment of this body of representative physicians, and reviewed the debt of the world to American physicians and surgeons, in reply to Sydney Smith's famous taunt. He next considered the metric system and recommended its general adoption, and in conclusion strongly urged the substitution of a periodical publication for the transactions in their present form.

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* Of course the editors are not responsible for the sentiments of the correspondent: our approbation of this course is fully expressed in the editorial column.

On motion, a committee was appointed to consider the recommendations in the presidential address. The chair appointed to serve in this capacity Drs. S. E. Chaille, Louisiana; S. D. Gross, Pennsylvania; J. S. Weatherly, Alabama; J. R. Bronson, Massachusetts; and W. R. Gillette, New York.

Dr. Sayre having retired, Dr. R. Beverly Cole, of San Francisco, First Vice-President, occupied the chair for the remainder of the morning session.

Professor S. D. Gross announced in feeling terms the death of Dr. Charles H. Sayre, and offered a resolution of sympathy and condolence with the President, and through him to his family, in their sad bereavement. This was unanimously adopted by a rising vote.

The Committee on Prize Essays made no award, only one essay being presented.

An appropriation of $200 was made for expenses of Committee upon Meteorology and Ozone, upon recommendation contained in a letter from Dr. N. S. Davis.

An emendation on Prize Essays was adopted on the second day, by which four prizes are to be offered, of $250 each, the chairmen in the different sections appointing committees for the selection of subjects and for awards. The amendment reads as follows:

"*a*. There shall be four annual prizes of two hundred and fifty dollars each, which shall be awarded at the close of the second year after announcement, as hereinafter explained, for strictly original contributions to medical and surgical progress.

"*b*. It shall be the duty of the chairman of each of the following four sections—1. Practical Medicine, Materia Medica, and Physiology; 2. Obstetrics and Diseases of Women and Children; 3. Surgery and Anatomy; 4. State Medicine and Public Hygiene—to appoint annually, before the adjournment of the meeting of the Association, three members of ability and good judgment, who shall constitute a Committee of Selection, and who shall, within thirty days thereafter, select and publicly announce, for competitive investigation and report, a subject belonging to one or other of the branches of medicine included in the title of the section.

"*c*. It shall also be the duty of the chairman of each of the sections mentioned to appoint annually a Committee of Award, consisting of three experts, who shall carefully examine the essays offered for competition, and if any one shall be found worthy of the prize as a substantial contribution to medical knowledge, to recommend the same to the Association.

"*d*. All essays placed by their authors for competition shall be in the hands of the chairmen of the respective committees of award on or before the first day of January preceding the meeting of the Association at which the reports of the committees are required to be made.

"*e*. All prize essays shall be considered as the property of the Association.

"*f*. The names of the authors of the competing essays shall be kept secret from the committees by such means as the latter may provide.

"*g*. Membership in either of the two committees shall not debar from membership in the other, nor shall membership in the Committee of Selection exclude a member from the privilege of offering a competing essay."

On motion of Dr. Bronson, of Massachusetts, a committee of five was appointed to consider the practicability of establishing an Association journal (such as the *British Medical Journal*), as recommended in the President's address. Drs. W. W. Dawson, Ohio; J. R. Bronson, Massachusetts; W. H. Pancoast, Pennsylvania; N. C. Husted, New York; and James S. Green, of Elizabeth, N.J., were named by the chair.

Dr. J. S. Billings, of Washington, reported that the first volume of the Catalogue of the National Library will be published in July, 1880, and the second about July, 1881.

The following amendments, proposed by Dr. John H. Rauch, to be made to the Constitution, were agreed to and ordered to be inserted:

Article II., second paragraph, after "army and navy," insert "and the Marine Hospital Service of the United States."

Article II., fourth paragraph, at the end, insert "the Marine Hospital Service of the United States shall be entitled to one delegate."

The following recommendations of the Metric Executive Committee were adopted:

(1.) Recommending the teaching and practice of the metric system in medical colleges, clinics, and dispensaries.

(2.) Charging the Metric Executive Committee to report annually the institutions which do or do not teach the metric system.

(3.) Authorizing said committee to enter into communication with the Metric Committee of the British Medical Association in order to concert such plans as may render the use of the metric system simultaneous and uniform in both countries.

Dr. W. M. Beach offered a resolution calling for a committee whose duty it should be to endeavor to secure for the medical staff of the army and navy equal social recognition with like grades in other departments of the service.

An anonymous charge against the delegates from the United States Navy having been offered, it was not entertained by the Judicial

Council; although, had it not been for a vigorous protest from Dr. Gihon, it would have succeeded in keeping them out until the last day of the session.

The following report from the Nominating Committee was unanimously adopted, and the following-named were declared elected:

OFFICERS FOR 1881.

"For President.—John T. Hodgen, M.D., of St. Louis, Mo.

"For Vice-Presidents.—1st, W. H. Anderson, M.D., of Mobile, Ala. 2d, Levi G. Hill, of New Hampshire. 3d, Henry T. Holton, of Vermont. 4th, H. Carpenter, of Oregon.

"For Permanent Secretary.—W. B. Atkinson, M.D., of Philadelphia, Pa.

"For Treasurer—R. J. Dunglison, M.D., of Philadelphia, Pa.

"For Librarian.—William Lee, M.D., of Washington, D.C.

"For Chairman of the Section on Practice of Medicine, Materia Medica, and Physiology.—Dr. Charles Denison, of Colorado. For Secretary.—Dr. T. A. Ashby, of Maryland.

"For Chairman of the Section on Surgery and Anatomy.—Dr. H. McGuire, of Richmond, Va. For Secretary.—Dr. D. A. Eve, of Tennessee.

"For Chairman of the Section on Obstetrics and Diseases of Women.—Dr. James R. Chadwick, of Boston, Mass. For Secretary.—Dr. J. Taber Johnson, of Washington, D.C.

"For Chairman of the Section on Medical Jurisprudence and State Medicine.—Dr. J. T. Reeve, of Wisconsin. For Secretary.—Dr. R. G. Young, of Arkansas.

"For Chairman of the Section on Ophthalmology, Otology, and Laryngology.—Dr. D. S. Reynolds, of Kentucky. For Secretary.—Dr. S. M. Burnett, of Washington, D.C.

"For Members of the Judicial Council, to fill vacancies.—Drs. J. K. Bartlett, of Wisconsin; F. Staples, of Minnesota; D. R. Wallace, of Texas; J. S. Billings, of U. S. Army; J. H. Warren, of Massachusetts; and A. T. Woodward, of Vermont."

The committee recommended that the next meeting of the Association be held in the city of Richmond, Va., on the first Tuesday in May, 1881.

As Chairman of Committee of Arrangements.—Dr. F. D. Cunningham, of Richmond, Va. Assistant Secretary.—Dr. J. G. Cabell, Va.

The committee further recommended that the Publication Committee, the Committee on Necrology, and the membership of the Section on Medical Jurisprudence, State Medicine, and Public Hygiene remain as now constituted, and in a supplemental report nominated Dr. Wm. Pepper, of Philadelphia, to fill the vacancy caused by the resignation of Dr. Chas. Denison, of Colorado, as chairman of the Section on Practice of Medicine, etc.

The President named the following:

Delegates to European Medical Societies.—Drs. R. Beverly Cole, California; Benjamin Lee, Pennsylvania; M. A. Pallen, New York; and J. D. Buckley and J. H. Warren, Massachusetts.

Delegates to Canada Medical Association.—Drs. C. N. Brush, Buffalo, N.Y.; James R. Leaming, New York; D. H. Goodwillie, New York; William Brodie, Michigan; and W. B. Ulrich, Chester, Pa.

The Librarian's Report was read, stating that the library contains 3258 volumes. Dr Lee asked for an appropriation of two hundred dollars for expenses, which was granted.

A number of communications were received on the final day,—one from Dr. Stillman, of Plainfield, N.J., resigning a patent-right to the Association (laid on the table); one from Dr. Frederick Horner, of Virginia, in regard to establishing a Committee on Benevolence (endorsed by the Association, and the chair directed to appoint the committee); and one presented by Dr. Lee, of Philadelphia, from the Philadelphia County Medical Society, calling attention to the prevalent abuse of medical charities, and recommending a searching investigation of applicants for relief. Referred to a committee consisting of Drs. B. H. Lee, H. G. Piffard, S. W. Gross, and J. W. Green.

Dr. Octerlony, Kentucky, moved that the practice of some medical editors of distributing their publications among the laity is considered reprehensible. Laid on the table.

Dr. Pratt, Michigan, moved that the Committee of Arrangements for the next meeting present a completed programme for the actual business of the meeting upon the first day of the session; also, that the proposed alteration in the Code of Ethics be set down for the second day's special order.

Dr. Hibberd, chairman of the Section on State Medicine, presented the following resolutions, which had been adopted by the section:

Whereas, The value of vital statistics depends upon their scientific accuracy as regards the etiology as well as the diagnosis of disease; therefore, be it *Resolved*, That this Association recommends that every medical school within its jurisdiction shall establish a Chair of Public or State Medicine as an essential part of its curriculum.

Resolved, That a general sanitary organization is a necessity of every enlightened commercial nation, and the service of the National Board of Health of the United States, since its organization, has been such as to impress us that both in its *personnel* and organization it is entitled to the confidence of the government and the people; and we join the American Public Health Association and the National Academy of Sciences in earnestly recommending to Congress that the suggestions and estimates of the board receive their legal sanction, believing that the money asked for is necessary to the work of the board, and will be a most judicious expenditure of money.

Resolved, That this Association approves of the plans proposed by the superintendent of the tenth census for the collection of data with regard to the insane and idiots of the United States; and that it urges upon all physicians that they should aid in every suitable way the efforts of the Census Bureau to perfect these statistics in regard to idiots and the insane.

These resolutions were all adopted *nem. con.*

Dr. Keller, of Arkansas, renewed his amendment of last year in regard to restricting the Nominating Committee to the members in actual attendance upon the meeting in their choice of officers.

The treasurer announced a balance in the bank of $570.59. By resolution, the funds of the Association were directed to be deposited in the Farmers and Mechanics' Bank of Philadelphia, in the name of the treasurer of the Association.

On motion of Dr. H. O. Marcy, the usual appropriation was made to the secretary, which was amended by Dr. Pallen, of New York, by inserting "one thousand dollars," instead of the "usual amount," which was unanimously adopted.

The Publication Committee was directed to accept the offer of the Collins Printing House, as the lowest bidder for publishing the Transactions.

The following committee on Prize Essays was appointed by the President: S. E. Chaille, Louisiana; J. T. Cabell, Virginia; and A. N. Bell, New York.

Reports by the chairmen of the several sections—(1) On the Progress of Practice of Medicine, by Dr. J. S. Lynch, of Baltimore; (2) On Surgery and Anatomy, by W. T. Briggs, of Nashville, Tenn.; (3) On Medical Jurisprudence, State Medicine, and Public Hygiene, by James F. Hibberd, M.D., of Richmond, Ind.—were read before the general sessions, but want of space forbids their analysis. The following extract from Dr. Hibberd's address, however, touches upon a subject of special interest and importance:

"In medical jurisprudence the subject of hanging as the best mode of capital punishment has been especially agitated. Congress has asked the members of the National Academy of Sciences whether they know of a better way of killing a criminal, and it is expected that the Academy will speedily advise the world of more than one way in which the work can be done quietly, promptly, and unfailingly, without a tithe of the publicity, the offensiveness, or the demoralization to the living that is inseparable from the current method of hanging. It seems unaccountable that a refined and æsthetic people have so long stood by and witnessed the horrors of hanging without uttering a word of effective remonstrance. Not long since, a fugitive criminal was arrested in New Orleans, and, taking a little vial of prussic acid from his pocket, he swallowed its contents, and was dead in a few minutes without a struggle; and yet a Christian people has made no movement to insist on this method supplanting the hanging, notwithstanding that a broken rope and a second suspension are no unusual occurrences. Within the year an experimental scientist accidentally discharged the electricity of his battery into his own person, and instantly his life was extinct, without consciousness or the quiver of a muscle; and yet a humane and enlightened nation has not striven to substitute this for hanging, notwithstanding the victim of the hangman's noose is often a writhing spectacle in mid-air for twenty minutes.

"Upon the subject of insanity alone the year has produced eighty-one books and pamphlets, and three hundred and sixty-seven journal articles. There is just ground for this activity, for either the insane are increasing out of proportion to the general population, or we are more carefully seeking out the insane. However this may be, it is patent that the great army of lunatics is recruiting faster than death and recovery thin out the ranks, and we are on the threshold of the time when both physicians and statesmen must seriously inquire whether the State should or should not be the one to take cognizance of the lunatic's situation. The tendencies of our social life are questions of most serious import. If it be true that acquired conditions are transmissible from parent to child, the necessity of looking after the training of youth is vastly more pressing now than when it was esteemed that evil habits acquired by a wrong education of the young ended with the life of him who acquired the evil habit. We know enough now to realize that there is an urgent demand for fresher thoughts and broader views in regard to the exercise of some of the highest attributes of a civilized and Christian people, involving a review and a possible reconstruction of our aims, and a consequent reorganization of our labors in a field of Christian activity so sacred,—the protection, care, and preservation of those who are imperfect in body and mind."

ENTERTAINMENTS.

On the evening of June 1 a reception was tendered to the delegates, by the profession of New York, at the Academy of Music. On the 3d instant receptions to the male delegates were given at the houses of Mayor Cooper and August Belmont, and by Drs. Barker and Thomas at the Academy of Medicine. On Wednesday, the 2d of June, the Association witnessed a complimentary entertainment at Booth's theatre, when "Othello" was presented, Messrs. Reed & Carnrick, Scott & Bowne, and the New York Pharmacal Association having tendered this to the American

Medical Association. On Friday afternoon a large number of the members accepted the invitation of Messrs. Wm. Wood & Co. to attend an excursion to Coney Island and up the Hudson.

In consequence of the great number of the papers presented, an analysis of them will not be attempted. The following is a list of the

PAPERS READ AT THE MEETING:

Those marked * were read by title only.

Section I.—On the Practice of Medicine, Materia Medica, and Pharmacy.

Dr. J. S. Lynch, of Baltimore, Md., Chairman.
Dr. W. C. Glasgow, St. Louis, Mo., Secretary.

1. On the Classification of Remedies, by Dr. William H. Thomson, New York.
2. A Case of Occlusion of One or More of the Cerebral Sinuses, by Dr. M. O'Hara, Philadelphia, Pa.
3. Sphygmograms, with Notes of Autopsies, by Dr. H. R. Hopkins, Buffalo, N.Y.
4. On the Use of Chrysophanic Acid in the Treatment of Skin Diseases, by Dr. Robert W. Taylor, New York.
5. Artificial Inflation as a Remedial Agent in Diseases of the Lungs,* by Dr. W. T. Gadbury, Yazoo City, Miss.
6. A Further Contribution to the Local Treatment of Pulmonary Cavities, by Dr. William Pepper, Philadelphia, Pa.
7. The Treatment of Scrofulous Diseases of the Skin, by Dr. J. V. Shoemaker, Philadelphia, Pa.
8. On Restorative Remedies, by Dr. J. R. Uhler, Baltimore, Md.
9. The Electrical Treatment of Exophthalmic Goître, by Dr. A. D. Rockwell, New York.
10. Artificial Inflation of the Lungs, by Dr. J. Solis Cohen, Philadelphia, Pa.
11. On the Use of Sulphur and its Compounds in Diseases of the Skin, by Dr. L. Duncan Bulkley, New York.
12. The Strong Galvanic Current in the Treatment of Sciatica, by Dr. V. P. Gibney, New York.
13. Hydrobromic Ether, by Dr. Laurence Turnbull, Philadelphia, Pa.
14. The Study of Special Nerve-Centres, by Dr. J. J. Caldwell, Baltimore, Md.
15. The Salisbury Method of Treating Consumption,* by Dr. E. Cutter, Boston, Mass.

Section II.—Surgery and Anatomy.

Dr. W. T. Briggs, Nashville, Tenn., Chairman.
Dr. C. Powell Adams, Hastings, Minn., Secretary.

16. Spinal Extension: its Modes, Means, and Motives, by Dr. Benjamin Lee, Philadelphia, Pa.
17. Phimosis as a Cause of Nervous Symptoms, with Results of Operations, by Dr. George M. Beard, New York.
18. Section of the Infra-Orbital and Inferior Dental Nerves for Neuralgia, by Dr. John T. Hodgen, St. Louis, Mo.
19. Newly-Devised Orthopædic Appliances, including the Sector Splint, by Dr. Charles F. Stillman, Plainfield, N.J.
20. Certain Methods in Surgery, and Considerations of the Etiology and Pathology of White Swelling or Synovitis of the Joints, in Regard to the Practice of Extension in their Treatment, by Dr. William H. Pancoast, Philadelphia, Pa.
21. Compound Complicated Harelip, by Dr. James L. Little, New York.
22. A Case of Torticollis rapidly and completely cured by Open Division of the Sternal and Clavicular Ends of the Sterno-Cleido-Mastoid Muscle, followed by Elastic Traction, by Dr. A. C. Post, New York.
23. A New Ether-Inhaler, and a New Form of Transfusion Apparatus, by Dr. Joseph C. Hutchison, Brooklyn, N.Y.
24. On the Treatment of Abnormal Conditions of the Inferior Turbinated Bones, by Dr. D. H. Goodwillie, New York.
25. Apparatus for Inhaling Nitrous Oxide mixed with Air, by Dr. D. H. Goodwillie, New York.
26. Hip-Joint Disease, by Drs. De Forrest Willard and E. O. Shakespeare, Philadelphia, Pa.
27. On Tapping of the Pericardial Sac, by Dr. John B. Roberts, Philadelphia, Pa.
28. Thoracentesis, by Dr. C. A. Leale, New York.
29. Cystotomy for Cystitis in the Male, by Dr. Robert F. Weir, New York.
30. Skin-Grafting, with Photographs, by Dr. Laurence Turnbull, Philadelphia, Pa.
31. A New Inhaler for Anæsthetics,* by Dr. D. M. Barr, Philadelphia, Pa.
32. Laparotomy and Colotomy, with Formation of Artificial Anus for Intestinal Obstruction, by Dr. W. A. Byrd, Quincy, Ill.
33. A New Appliance for Club-Foot, by Dr. W. Doyle, Syracuse, N.Y.
34. The Pathology and Treatment of Syphilis, by Dr. F. N. Otis, New York.
35. The Development of the Osseous Callus, by Dr. H. O. Marcy, Mass.
36. Lupus, by Dr. H. G. Piffard, New York.
37. The Treatment of Syphilis at the Beginning and at the End of the Nineteenth Century, by Dr. Charles R. Drysdale, London, England.
38. The Elastic Bandage, by Dr. James Martin, Boston.
39. On the Radical Cure of Inflammation by Ligation of the Vessels of Supply, by Dr. H. F. Campbell, Georgia.
40. A Method of Treating Spinal Disease,* by Dr. E. H. Coover, Harrisburg, Pa.
41. On the Treatment of Fractures, by Dr. W. D. Hooper, Virginia.
42. Treatment of Fractures of the Long Bones involving the Joints,* by Dr. James S. Green, New Jersey.

43. On the Present Standing of the Doctrine of Inflammation,* by Dr. C. Heitzmann, New York.

Section III.—On Obstetrics and Diseases of Women.

Dr. G. M. B. Maughs, St. Louis, Mo., Chairman.

Dr. Robert Battey, Rome, Ga., Secretary.

44. Battey's Operation in Epileptoid Affections, by Dr. J. M. Sims, New York.

45. On the True Import of Oöphorectomy, or Spaying, for Reflex Disease, more particularly in Epilepsy, Hystero-Epilepsy, or Catalepsy, by Dr. M. A. Pallen, New York.

46. Management of the Third Stage of Abortion, by Dr J. Taber Johnson, Washington, D.C.

47. Gastro-Hysterectomy, being Remarks on and Exhibition of a Full-Term Uterus removed by Laparotomy, by Dr. Isaac E. Taylor, New York.

48. A New Uterine Dilator, by Dr. H. O. Marcy, Mass.

49. Clinical Contributions to the Subject of Removal of the Uterus, in Whole or in Part, by the Extirpation of Tumors connected with that Organ, by Dr. T. G. Thomas, New York.

50. The Treatment of Fibroids of the Uterus by Dry Earth, by Dr. Addinell Hewson, Philadelphia, Pa.

51. Clinical Report on a Modified Operation for Cystocele, by Dr. B. F. Dawson, New York.

52. Still-Birth: Resuscitation after Two Hours and Five Minutes, by Dr. Robert Battey, Rome, Ga.

53. Rest after Delivery—Treatment of Peritonitis, by Dr. R. Tauszky, New York.

54. Remarks on Sponge Tents, by Dr. R. Beverly Cole, California.

55. A Universal Catheter, by Dr. Robert Battey, Georgia.

Section IV.—On Medical Jurisprudence, Chemistry, Psychology; State, Medical, and Public Hygiene.

Dr. James F. Hibberd, Richmond, Va., Chairman.

Dr. Thomas F. Wood, Wilmington, N.C., Secretary.

56. The Death-Rate of the Rich and Poor, by Dr. C. R. Drysdale, England.

57. The National Board of Health, by Dr. J. S. Billings, U.S.A., Washington, D.C.

58. The Relations of the Medical and Legal Professions to Criminal Abortion, by Dr. E. H. Parker, Poughkeepsie, N.Y.

59. Unsanitary Engineering and Architecture, by Dr. A. N. Bell, Garden City, N.Y.

60. The Temperature of Living-Rooms, by Dr. R. C. Kedzie, Michigan.

61. The Personal Factor in the Etiology of Preventable Disease, by Dr. A. C. Carroll, New York.

62. Hot-Air Bathing as a Means of Promoting Health and Preventing Disease, by Dr. E. C. Angell, N.Y.

63. Microscopical Sections from Cases of Diseases of the Brain and Spinal Cord, by Drs. Charles K. Mills and Carl Seiler, Philadelphia, Pa.

64. The Treatment of the Insane, by Dr. Charles W. Page, Connecticut.

65. Intervention of Physicians in Education (report of committee).

66. Establishment of National Sanitaria (report of committee).

67. The Criminal Use of Chloroform, by Dr. J. V. Quimby, New Jersey.

68. Thoughts regarding the Construction of Almshouses, by Dr. W. H. Lathrop, Massachusetts.

69. Suspected Poisoning, by Dr. G. Antisell, Washington, D.C.

70. Humane Societies, by Dr. W. F. Thomas, New York.

Section V.—On Ophthalmology, Otology, and Laryngology.

Dr. Laurence Turnbull, Philadelphia, Chairman.

Dr. Eugene Smith, Detroit, Secretary.

71. A Case of Syphilitic Stenosis of the Larynx, with Fibrous Adhesive Bands of the True Vocal Cords; Tracheotomy, Rupture of Bands, and Cure of the Stenosis by General and Local Treatment, by Dr. W. H. Daly, Pittsburg, Pa.

72. Remarks on the Lesions in the Larynx in Pulmonary Phthisis, by Dr. Carl Seiler, Philadelphia, Pa.

73. Tumors of the Lachrymal Gland, by Dr. H. Knapp, New York.

74. The Training of Idiotic Eyes, by Dr. Edward Seguin, New York.

75. The Therapeutic Value of the Galvano-Cautery in Diseases of the Naso-Pharynx, by Dr. W. H. Daly, Pittsburg, Pa.

76. The Refraction of Light by Asymmetrical Surfaces, by Dr. H. Knapp, New York.

77. On the Introduction of Liquids into Eustachian Tubes and Middle Ear, by Dr. S. S. Jones, Chicago.

78. On Wickersheimer's Preservative Fluid, by Dr. E. Gruening, New York.

79. Color-Blindness, by Dr. B. Joy Jeffries, Boston.

80. Variability of the Human Eye, by Dr. David Hunt, Boston.

81. The Probable Cause of Some Forms of Globus Hystericus, by Dr. Richard C. Brandeis, New York.

82. The Magnet for the Removal of Particles of Steel and Iron from the Eye, by Dr. E. Gruening, New York.

83. Perichondritis Auriculæ, by Dr. H. Knapp, New York.

84. On the Detection of the Presence and Location of Pieces of Steel and Iron in the Eye by the Indication of a Magnetic Needle, by Dr. T. R. Pooley, New York.

85. Ear Troubles, by Dr. S. D. Risley, Philadelphia, Pa.

86. Erectile Tumors of the Turbinated Bones, by Dr. D. H. Goodwillie, New York.

87. Primary Conjunctival Lupus, by Dr. E. S. Peck, New York.

88. Removal of Secretions from the Tympanic Cavity and Mastoid Cells,* by Dr. W. F. Holcombe, New York.

89. Causes and Relief of Tinnitus Aurium,* by Dr. W. F. Holcombe, New York.

90. A Treatment suggested for Subacute and Chronic Otitis Media,* by Dr. W. F. Holcombe, New York.

91. Observations upon Aural and Auditory Vertigo, with Cases,* by Dr. Laurence Turnbull, Philadelphia, Pa.

Section VI.—On Diseases of Children (*new section*).

Dr. S. C. Busey, of Washington, D. C., Chairman.

Dr. Frank Woodbury, Philadelphia, Pa., Secretary.

92. The Claims of Pædiatric Medicine (address), by Dr. A. Jacobi, New York.

93. Bright's Disease in Children caused by Malaria, by Dr. S. C. Busey, Washington, D.C.

94. Congenital Multiple Lymphectasia, by Dr. James S. Green, Elizabeth, N.J.

95. Congenital Atrophy of the Liver, by Dr. A. Jacobi, New York.

96. A Case of Supra-Pubic Lithotomy, by Dr. A. Jacobi, New York.

The chairmen of Sections I., II., and IV. also presented reports of progress in their special departments in their annual addresses, which were read at the morning sessions of the Association.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MARCH 25, 1880.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Cystic giant-celled sarcoma of the head of the tibia. Presented by Dr. SAMUEL W. GROSS.

A SINGLE woman, æt. 20 years, presented herself at the out-patients' department of the Jefferson Medical College Hospital on the 24th of January, 1880, on account of a huge tumor of the upper epiphysis of the left tibia, of two years' duration. About three years previously she fell and struck her knee upon the cobble-stones; after which she experienced a sense of weakness in the joint, but did not discover a swelling until after the lapse of twelve months, when she observed a tumor, of the volume of a hen's egg, just below the lower border of the patella. For eighteen months its growth was so slow that its size had only doubled itself; but six months ago she again fell upon her knee, after which the tumor increased rapidly, and the subcutaneous veins began to enlarge. At times, when the weather was damp, she experienced sharp, shooting, or stinging pains, but, as a rule, she was free from suffering. There was some heat in the swelling; the skin was not changed in texture or color; the veins were as large as the little finger; there was some tenderness on manipulation; the consistence of the mass was firm and elastic, except at its outer side, where there was marked parchment-like crepitation. The leg could be flexed upon the thigh, but the power of extension was slight.

After amputation through the lower third of the thigh, by Dr. Levis, at the Pennsylvania Hospital, the head and upper portion of the shaft of the tibia were found to have been converted into a periosteo-osseous capsule, which was occupied by a firm mass, the centre of which was of a yellowish-white tint, while the peripheral portion, for an average width of an inch and a half, was of a dull red color and pervaded by cysts, some of which were an inch and a quarter in diameter and contained a citron-colored fluid. The tumor measured six inches and three-quarters in length by five inches in width, and was limited above by the articular cartilage, which was sound.

Minute examination of sections taken from the red portion of the mass disclosed an exquisite example of giant-celled sarcoma, and the commencing cystic changes could be readily followed through mucoid transformation of the multinucleated elements. The central portion of the growth had undergone advanced fatty metamorphosis.

Tumor of breast. Presented by DR. JOHN H. PACKARD. With report of microscopic examination of the same, by C. SEILER, M.D.

Susan C., æt. 50, unmarried, Irish, a large, well-developed woman, rather old-looking for her years, living comfortably as an upper servant in a wealthy family, noticed a tumor in her right breast some time last summer (1879). She does not recollect having ever sustained any injury to the part.

Becoming uneasy about it shortly before Christmas, she consulted her employer's physician, Dr. J. F. Meigs, who gave her a protective plaster and directed a tonic.

On the 12th of January she came to me by Dr. M.'s advice. The tumor had produced no visible alteration in the size or shape of the breast, but could be easily felt as a condensation and hardening of the part. It was not painful, or tender on pressure, but there was some "sticking" sensation in it after it had been handled. No alteration was discoverable either in the nipple or in the skin. Her general health was good in every respect. Menstruation regular.

I advised the continuance of the tonic, and the local application of a thin sheet of raw cotton, covered with oiled silk.

On the 29th of January the measurement of the diseased gland was eighteen inches, the tape being carried as accurately as possible around the largest vertical circumference. The sound one measured sixteen.

February 13, the tumor measured seventeen and a half inches, and February 27 only seventeen.

On the 26th she had noticed a slight discharge of bloody liquid from the nipple. This still continuing, on the 27th I examined it under the microscope, and found the following elements: blood-corpuscles in large numbers; some bodies resembling the colostrum-corpuscles of milk; fine oil-drops; a few masses looking like epithelial casts of the lactiferous tubes; some cells of irregular shape, with nuclei and nucleoli; a good many free nuclei were also noticed. Many of the nuclei contained two nucleoli.

Although the tumor had lessened in size, it had become decidedly harder and denser. There was no discoverable involvement of axillary or other lymphatic glands.

On the 19th of March I excised the tumor, with the entire breast, ether having been administered by Dr. A. V. Meigs, and Drs. J. F. Meigs and Jesse Williamson being present and assisting. The incisions were made obliquely, so as to bevel the edges of the skin, and the wound was accurately closed with three hare-lip sutures and adhesive plaster. Carbolized cerate was used as a dressing.

She had no pain afterwards, except some in the arm from the constrained position in which it was kept. On the third day, the pins being removed, the wound seemed to have united firmly throughout. On the fourth day she got up to have her bed made, and suffered only slight giddiness.

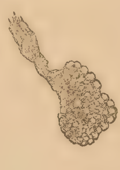
I would call attention to the effect of the oblique incisions, as enabling me to close the wound very accurately, excluding the air, and giving two broad surfaces for agglutination, thus promoting rapid union, and preventing the formation of pus even in the large cavity left by the removal of such a mass of tissue.

Dr. Seiler was kind enough to undertake the microscopic examination of the tumor, and to report his results:

"The tumor of the breast exhibits under the microscope large distended acini, separated from each other by narrow bands of connective tissue. The epithelial cells lining the acini are proliferating, so as to fill in many instances the entire lumen, while in others the cell-plugs are seen to have undergone cheesy degeneration. Frequently the cells are seen to have broken through the limiting membrane of the acini, and to advance in pegs into the connective tissue. Numerous depots of small-celled infiltration are observed in the connective tissue. From these appearances I would pronounce the tumor to be a carcinoma having undergone cystic caseous degeneration."

Warty growth pendent to uvula; no symptoms. Presented by Dr. S. D. RISLEY.

Mr. C. F. M., æt. 32, consulted me on March 4, 1880, for disease of his left ear. In the attempt to study the condition of the pharynx and orifice of the Eustachian tubes, the uvula was found greatly elongated and its extremity hidden from view below the base of the tongue. It was brought into view by a blunt hook, and a large papillomatous growth discovered pendent to its extremity, the uvula itself being drawn out to fully 3½ cm. in length, and correspondingly diminished in thickness. The growth itself was of a grayish-white color, and appeared macerated; it was 1 cm. in its broadest horizontal diameter, and 8 mm. in the vertical diameter. It presented the characteristic papillary divisions, which were clustered around the end of the uvula like the cauliflower around its stock, presenting posteriorly a hilus down which ran the greatly-distended blood-vessels. The bleeding after excision was very profuse. The accompanying sketch was made on wood by Dr. Lee, after the growth had been in dilute alcohol for several weeks. I at first supposed this specimen to be unique, but my attention was subsequently called to a very similar growth reported and figured *in situ* by Lennox Browne (*The Throat and its Diseases*, Philadelphia, 1878, Henry C. Lea). In his case very distressing symptoms were occasioned. In mine the patient was entirely ignorant of its presence, and had experienced no inconvenience from it,—not even a cough. He had a deep, hoarse voice, which very noticeably improved in tone during the two weeks he was under observation.



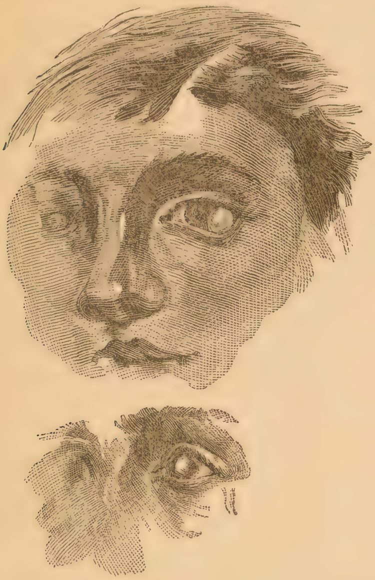
Dermoid cyst of left cornea. Presented by Dr. S. D. RISLEY.

A. R., æt. 18, consulted me, January 20, 1880, regarding a tumor on his left eye. The following history was given. His mother noticed, during very early infancy, a white spot, the size of a large pin's head, near the external limbus of the cornea, situated entirely on the sclerotica. It gradually increased in size as the child grew. It has never caused any pain or trouble of any kind, other than the defective vision.

Present State.—O. D. healthy; $V = \frac{6}{6}$. In O. S. deciphered Sn. c.c. at 1 M.

There is in O. S. a pinkish-white tumor five millimetres in height, eight millimetres in vertical diameter at the base, and one centimetre in its horizontal diameter. In shape it is a truncated cone. It is vascular at its base, and has four black hairs, the length of the cilia, growing from the top, with numerous finer, colorless ones, seen only with lens. The base horizontal line is situated half on the cornea, half on the sclerotica, and is two millimetres below the horizontal meridian of the cornea. The corneal side of the cone is steeper than the scleral side, and the base more sharply defined. The cornea is hazy, one millimetre and a half around the base, and is lifted up above the surrounding cornea, which is elsewhere transparent. The iris reacts promptly, and the anterior chamber is perfect. The deeper media are transparent, and the fundus healthy.

The accompanying sketch very perfectly represents the appearance of the growth, which is undoubtedly a dermoid cyst.



REVIEWS AND BOOK NOTICES.

History of Medicine in New Jersey, and of its Medical Men. By Stephen Wickes, M.D. Mark R. Dennis & Co., Newark, N.J., 1879.

The time covered by this curious work is from the earliest settlement of the province up to the year 1800. The first part of the work, giving the general history of the subject, including a discussion of the pecuniary and social position of the profession in the early time, will, we think, most strongly attract the general reader; and yet we have lingered most pleasantly over the quaint biographies in the latter pages, many of which have, to us, the peculiar charm that hangs about a mediæval church-yard and holds the wanderer fast until each moss-covered tablet has been spelled out. Quaint bits of character, whose rugged growth was nurtured by the storms of revolution; fragments of medical practice still damp with the odor of mediæval grave-vaults; anecdotes of death, of toil, of battle, with that touch of humanity in them that makes the world akin,—these, strung together with a thread of personal history which binds them to men still living and known to us, fill page after page of this entertaining volume. We picked up the book supposing that it was a whited sepulchre full of dead men's bones, but, lo, the forms are vivified by the touch of a living pen.

Pathogenetic Outlines of Homœopathic Drugs. By Dr. Carl Heinigke. Translated from the German by Dr. Emil Zietze. Boericke & Tafel, 1880.

Few books have ever come under our editorial notice concerning which it has been so embarrassing a task to write as the present one. If we say that it is a condensed mass of asserted facts, very many of them false, others puerile, others true, all mixed and commingled into a hopeless jumble, we will be accused of being prejudiced; but, on the other hand, if we say anything diverse from this, we will be guilty of breaking the commandment, "Thou shalt not bear false witness." On the third page of the text, at which the book first fell open, we read that the symptoms produced by aconite are "tumultuous and violent contractions of the heart; increased tension of the arterial vascular membranes; frequent, hard, and rigid pulse; more vigorous and irregular beating of the heart; spasmodic contraction of small arteries; violent febrile phenomena, with chills, heat, and perspiration; high bodily temperature," etc. To escape from our dilemma as to the true method of review, we will leave the above-given extract as a specimen of the wilful ignorance of its author, or of his scarcely more pardonable falsification.

GLEANINGS FROM EXCHANGES.

Pathology of Urticaria.—M. Vidal (*Lancet*, April 3, 1880; from *L'Union Médicale*) has published the results of the examination of a "wheal" excised during life from a patient suffering from urticaria. The superficial and deep net-work of vessels was found dilated and gorged with blood, without any alteration of their walls being discoverable. Both the blood-vessels and the lymphatic vessels were surrounded by leucocytes, which were also scattered through the whole thickness of the cutis, and massed together at certain points. A few were to be seen between the cells in the deepest layer of the epidermis. Here this structure was normal, but another piece of skin was excised from a wheal on which the epidermis had been raised in a vesicle. This vesicle contained a serous, albuminous liquid, and the débris of epithelial cells. In the middle layer the cells were vesicular, and those of the deeper layer granular. Leucocytes migrating among the cells in the deep layer of the epidermis were more numerous than in the other case.

M. Vidal remarks that from this pathological alteration we can see the nature of the morbid process. In a predisposed subject some internal or local cause excites the action of the vaso-motor nerves; this excitation is soon followed by contraction of the cutaneous capillaries, and this by their paresis and congestion, with retardation of the circulation. Hence, at the centre of the altered part there is migration of leucocytes and serous effusion, the acute œdema causing the pale prominence. A similar lesion—a sort of acute œdema—may be produced artificially by injecting into the skin a few drops of water. What becomes of the leucocytes which have wandered out? Are they resorbed, or are they carried towards the epidermic layer, as Biesiadecki suggests? It will be observed that this theory ignores any participation of the muscular fibres of the skin, which has been assumed to account for the limitation of the œdema and consequent prominence of the wheal,—a limitation which M. Vidal leaves unexplained.

Gangrene of the Lung—Recovery.—The *Lancet* of April 10 contains notes of the following case, which occurred under the care of Dr. Sturgis, at the Westminster Hospital. A man of twenty-seven, who had previously enjoyed good health, caught cold, with cough, pain in the left chest, with profuse expectoration and dyspnœa, which, during five weeks, became steadily worse. At the end of that time he was anæmic, weak and thin; his breath and sputa were of the characteristic odor of pulmonary gangrene. The sputa were frothy at the surface, but had a blackish-gray layer below. On percussion there was a patch of dulness over the left base behind, about three inches square, and, on auscultating over this patch, crepitation of medium character was heard during inspiration and expiration. The other parts of the lungs gave evidence of bronchitis. Dr. Sturgis diagnosed the case as gangrene of the lung, and ordered the patient to be placed in a complete atmosphere of carbolic-acid vapor. A tent was placed around the bed-head, and vapor of carbolic acid was passed into the tent. The strength of the solution was one per cent. The patient was kept in this atmosphere for five weeks; for the first fourteen days the cough and dyspnœa were no better, but the offensive odor of the expectoration disappeared, sputa still giving evidence of pulmonary break-down. During the remaining three weeks of treatment the symptoms gradually improved, and the patient became better and stronger and increased in weight. The patient was finally discharged in good health.

Apomorphia in Hysteria.—Mr. James Allen, being called to a woman whom he found in a state of hysterical coma which had lasted several days, injected one-tenth of a grain of apomorphia subcutaneously; the patient in a few moments sat up, and was able to walk home with her friends.

MISCELLANY.

The editor-in-chief of the *British Medical Journal* receives a salary of twenty-five hundred dollars a year, while the sub-editor receives eight hundred dollars.

We have received, as one of the volumes of Wood's Standard Medical Library, a translation, by Dr. D. F. Lincoln, of the classical work by Professors Trousseau and Pidoux on "Therapeutics,"—a book which is such a masterpiece that it still affords very pleasant and useful reading to the practitioner, in spite of the fact that modern science has swept far away from its methods. It remains, like a noble home of the old régime, still beautiful and pleasant, and rich with the reminiscences of a bygone age.

Chloral! of blue blood the bluest,
  Alcohol and Chlorine's daughter,
Youth and beauty that renewest,
  Night's long watches making shorter.
Blithely raise a pæan choral
Round thy fount of blessings, Chloral!

Toss no more in vigils lengthy,
  Sigh no more for daylight's peeping;
Sweet and soft falls thy nepenthe,
  In its calm worn spirits steeping.
Truly "*Amor vincit omnia*,"
Chloral's love can cure *Insomnia!*

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM MAY 30 TO JUNE 11, 1880.

Vollum, E. P., Major and Surgeon.—Having reported in person at these Headquarters, is assigned to duty at Fort Hamilton, New York Harbor. S. O. 84, Department of the East, June 1, 1880.

Irwin, B. J. D., Major and Surgeon.—To be relieved from duty at Fort Meade, upon return to that Post of Assistant-Surgeon Brechemin, and then to report in person to the Commanding Officer, Fort Snelling, Minn., for duty as Post-Surgeon. S. O. 63, Department of Dakota, May 27, 1880.

Happersett, J. C. G., Major and Surgeon.—Granted leave of absence for three months, to take effect when relieved from duty in Department of the East. S. O. 118, A. G. O., May 28, 1880.

Bartholf, J. H., Captain and Assistant-Surgeon.—Now on leave of absence; relieved from duty in Department of California, and to report in person to Commanding General, Department of the Columbia, for assignment to duty. S. O. 123, A. G. O., June 4, 1880.

Weisel, D., Captain and Assistant-Surgeon.—Granted leave of absence for four months. S. O. 122, A. G. O., June 3, 1880.

Byrne, C. B., Captain and Assistant-Surgeon.—Assigned to duty at Fort Johnston, N.C., relieving Assistant-Surgeon V. Havard, who will comply with S. O. 74, c. s., A. G. O., in his case. S. O. 65, Department of the South, June 1, 1880.

Reed, Walter, First-Lieutenant and Assistant-Surgeon.—Granted leave of absence for one month, with permission to apply for an extension of two months. S. O. 124, A. G. O., June 5, 1880.

Hall, William R., First-Lieutenant and Assistant-Surgeon.—To proceed to Fort Hays, Kansas, and report to Major Noyes, Fourth Cavalry, for duty with troops ordered to New Mexico. S. O. 113, Department of the Missouri, May 26, 1880.

Gray, William W., First-Lieutenant and Assistant-Surgeon.—Relieved from duty at Fort Point, Cal., and to return by steamer, on 31st instant, to his proper station, Vancouver Barracks, Wyo. T. S. O. 75, Division of the Pacific and Department of California, May 26, 1880.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JULY 3, 1880.

ORIGINAL COMMUNICATIONS.

A CONTRIBUTION TO THE STUDY OF THE PHYSIOLOGICAL ACTION OF QUINIA AND CINCHONIDIA.

BY DAVID CERNA, M.D., PH.D.

Read before the Society of the Alumni of the Auxiliary Department of Medicine, University of Pennsylvania.

OF the cinchona alkaloids, quinia appears to be the one of which the most thorough physiological and therapeutical investigation has been made. Cinchonidia has lately been used somewhat extensively, therapeutically, with much apparent success; but no physiological study of it, so far as I know, has been undertaken. Based, therefore, upon no previous study, my few observations with this substance may be considered as entirely original. Those upon quinia either do or do not corroborate the conclusions arrived at by other investigators. I will first treat of the effects of quinia on the nervous and circulatory systems.

PHYSIOLOGICAL ACTION OF QUINIA.

On the Nervous System.—I may say that for the literature of the subject I am greatly indebted to Professor H. C. Wood's unrivalled work on "Therapeutics." *Reflex action* under the influence of quinia has been studied by different observers, but it has not, so far, been definitely settled. Some writers, as Schlockow and Eulenberg (Reichert's *Archiv für Anatomie*, 1865), have seen a diminution from the first, the loss of the spinal function taking place before voluntary motion was at all affected. A stage of increased activity was, however, observed by Henbach (*Centralblatt für Med. Wissenschaften*, p. 674, 1874) preceding the subsequent lowering and final abolition. These are certainly contrary statements, but I think they can be reconciled and proven to be both correct. In his experiments Eulenberg has used very large doses of quinia, which was probably also the case in Schlockow's studies, while Henbach in his observations employed minute quantities of the drug. Of course we can readily understand now that no stage of increased activity was seen by Eulenberg, for certainly quinia in enormous doses paralyzes from the beginning all reflex activity. In my experiments I have never seen a stage of increased reflex action when large doses of the alkaloid were used, while, on the other hand, I have almost invariably observed this stage when comparatively small quantities of quinia were given. The following experiments show this:

Exp. I.—Frog. Reflex action in 5 seconds. 12.19 P.M., injected $\frac{1}{16}$ grm. quinia. 12.25, reflex action in 10 seconds; 12.41, reflex action in 21 seconds; 12.45, reflex action very feeble, as shown by the acid solution used for experimentation (strength, 5 gtt. of H_2SO_4 to the ounce of H_2O).

Exp. II.—Frog of about the same size as last. Reflex action in 2 seconds. At 12.36 P.M. $\frac{1}{64}$ grm. was given. 12.41, reflex action in 1 second; 12.45, reflex action in 1 second; 12.53, reflex action in 3 seconds; 12.56, reflex action in 4 seconds.

It is seen, thus, that in the first experiment, where I used a comparatively large dose of quinia, the reflex activity was lessened from the beginning, while a stage of increased action was noticed in the second experiment, where a small dose was given. I shall first discuss this stage. For the production of increased reflex activity there are four factors,—spinal sensory and motor nerve-centres and sensory and motor nerves. Now, how does quinia, in minute quantities, act to increase reflex action? That neither the sensory nor the motor centres of the cord have anything to do with the result in question is proven by the following experiment, which is an example of others of the kind performed:

Exp. III.—Large frog. Tied abdominal aorta. Reflex action (after recovery from the shock) in 4 seconds. $\frac{1}{32}$ grm. quinia was then injected, at 1.10 P.M. 1.15, reflex action in 5 seconds; 1.20, reflex action in 5 seconds; 1.30, reflex action greatly impaired.

In this experiment, by tying the aorta, the sensory and motor nerves were protected from the influence of the drug; under these circumstances there was no increase of reflex activity at the beginning, showing, I think, that it is produced in the normal animal by stimulation of either the sensory or motor nerves. The motor nerves are not affected one way or the other by minute doses of quinia, as shown by my experiments with the Dubois-Reymond galvanic coil. Therefore I must come to the conclusion that the Peruvian alkaloid in small doses increases reflex activity by stimulation of the sensory nerves.

A more marked effect of quinia in large doses is its depressant action upon the cord. The drug certainly diminishes and finally abolishes reflex action, but the exact manner in which it does this has been the subject of some controversy. Chaperon (*Pflüger's Archiv für Physiologie*, 1869, p. 295) attributes the result to a stimulating action of the drug upon Setschenow's centre,—a conclusion that is denied by Henbach, whose experiments gave results just opposite to those obtained by Chaperon. My studies confirm the observations of the latter investigator, as the following experiments will show:

Exp. IV.—Frog. Cut cord in dorsal region, and waited for the shock to pass off. Reflex action in 2 seconds. $\frac{1}{32}$ grm. quinia was then administered, at 12.40 P.M. 12.45, reflex action in 1 second; 12.50, reflex action in 1 second; 1.04, reflex action in 2 seconds; 1.15, reflex action in 2 seconds; 1.25, reflex action in 2 seconds.

In this case the reflex action did not go below normal at all, although there was a primary increase at first, due to stimulation of the sensory nerves. In Experiment V., after the reflex action was lowered by quinia, section of the cord brought back the function to normal below the point of division. These two experiments were repeatedly performed, with the same results. Quinia, therefore, diminishes reflex action by stimulation of Setschenow's reflex inhibitory centre.

I may mention that in every case after death, in the normal animal, direct galvanic stimulation of the medulla spinalis, as well as galvanization of the nerve-trunks, always produced free contractions of the tributary muscles,—a further proof that the alkaloid exerts no influence on either the motor nerves or the motor tract of the cord.

On the Circulation.—I shall first speak of the action of quinia upon the pulse, with regard to which most eminent authorities seem to agree. I may premise this by stating that if the heart of the frog be placed in a solution of the alkaloid it will be noticed, by and by, that its beating will be entirely arrested: this effect of the drug is sometimes produced so immediately, when direct application is resorted to, that there is little doubt that quinia is a poison to the heart-muscle. Briquet has observed the heart to be almost instantly stopped when the drug was administered in such a way as to be taken into the coronary arteries. This result I have frequently seen in my own experiments when the heart was placed in a solution of quinia. The same statements have been made by Schlockow ("De Chini sulfurici Vi physiologica nonnulla Experimenta, Vratisl.," 1860) and by Eulenberg (*loco citat.*). Quinia produces in the normal animal first a rise in the number of heart-beats, and then a slowing of the heart's action, for which several factors must be taken into consideration. How does the drug affect the pulse?—in other words, How does it slow the cardiac beats? The two last-quoted authorities found that quinia slowed the pulse even after section of the pneumogastrics, and, from the fact also that the poison produces similar results when locally applied to the heart, they concluded that the alkaloid acted in this way solely by influencing the heart-muscle. But I have mentioned that quinia increases the heart-beats at first, according to my experiments, a fact which I have seen nowhere, so far, stated. This primary stimulation of the heart's action, however, is not noticed when the vagi have been previously severed, which shows that the peripheral inhibitory nerves must be somewhat paralyzed early in the poisoning. The following experiments, which I here give in detail, will explain themselves:

Exp. VI.—Dog.

Time.	Dose.	Pulse.	Remarks.
3.35		126	
.35.30	¼ grm.		Injected into jugular vein.
.35.50		144	
.36		162	
.37		180	
.38.20		198	
.38.40		174	
.38.50		162	

Exp. VII.—Rabbit.

Time.	Dose.	Pulse.	Remarks.
			Vagi cut.
11.25		186	
.50		186	
.56	¼ grm.		Into jugular vein.
.56.20		186	
.57		186	

In both experiments the pulse-rate fell, subsequently, far below normal, and continued to go down till the heart finally stopped beating. If the drug acted at all on the accelerators, the same increase, proportionately, in the number of heart-beats would be noticed after section of the pneumogastrics, which is not the case. The depressant action of the alkaloid upon the pulse is undoubtedly due to its effect on the cardiac muscle, as the same result is seen after all nervous connection with the heart has been destroyed. The following experiment illustrates this point:

Exp. VIII.—Dog.

Time.	Dose.	Pulse.	Remarks.
			Cut cord and vagi; artificial respiration. Injected into jugular vein.
3.40		30	
.41	¼ grm.		
.41.10		26	
.42		26	
.45		27	

When large doses are used, there is, towards death, a very rapid pulse, the number of beats going far above normal, due, perhaps, to the marked action of the drug, which causes great enfeeblement of the heart. Quinia, then, accelerates the pulse at first by paralyzing, early in the poisoning, the peripheral inhibitory nerves. The pulse is diminished by an action of the drug on the cardiac muscle.

With regard to the blood-pressure under the effects of quinia, my experiments lead me to conclusions at variance with those of many observers. Schroff and Jerusalimsky saw a rise of the pressure followed by a marked fall of the arterial tension. I have never seen a rise in any of my experiments, but always a lowering of the pressure from the beginning. Both Schroff (*Medizinische Jahrbücher*, 1875) and Jerusalimsky seem to be of the opinion that quinia has a depressant action on the vaso-motor nervous system. The first investigator (*loc. citat.*) found that in an animal under quinia neither asphyxia nor galvanization of a sensitive nerve could induce a rise of the arterial pressure. Dilatation of the vessels has been asserted to exist in quinized frogs (Jerusalimsky, *Centralb. f. Med. Wissensch.*, 1876, p. 476). In quinia-poisoning the fall of blood-pressure occurs even after section of the pneumogastrics, showing that the action must be either upon the vaso-motor nervous system or upon the heart-muscle. The following experiment shows this:

Exp. IX.—Rabbit.

Time.	Dose.	Pressure.	Remarks.
			Vagi cut.
10.30		360	
.31	¼ grm.		Injected into external jugular vein.
.31.10		340	
.31.20		270	
.31.40		280	
.32		280	
.32.30		300	
.40		360	

This lowering of the pressure is seen just as markedly after vaso-motor paralysis (*i.e.*, after the cord has been previously cut), as is shown in the following experiment:

Exp. X.—Dog.

Time.	Dose.	Pressure.	Remarks.
			Vagi and cord cut; artificial respiration. Injected into jugular vein.
4.50		560	
.51	¼ grm.		
.51.10		350	
.51.20		360	
.51.30		360	
.52		360	
.55		480	

This marked lowering of the arterial pressure by quinia may be owing to a double action, as claimed by certain investigators (*i.e.*, an action on both the vaso-motor nervous system and the heart itself); but the drug, as has been previously pointed out, is a powerful poison to the heart-muscle, and from the result of the above experiment—an example of many others performed—I must come to the conclusion, at present, that quinia lowers the blood-pressure by acting upon the cardiac muscle.

PHYSIOLOGICAL ACTION OF CINCHONIDIA.

From a number of experiments made with this alkaloid, I find that its effects are more or less similar to those produced by quinia. To effect the same results as those of the stronger drug, larger doses, comparatively, were used. As is the case with quinia, when cinchonidia is given in poisonous doses it produces at first a period of excitement, followed by a stage of comparative quietude. Gradually the lethal symptoms are manifested; the breathing becomes labored, the heart's action feeble. Voluntary movement is lost early and before the general sensibility and reflex action are affected. Muscular tremors are sometimes noticed; at other times convulsions manifest themselves which are clonic in their nature. There is a gradual loss of sensibility and reflex action, which become affected *pari passu*. Death is at last produced through failure of the respiration. The pupils were seen to contract sometimes, especially just before the fatal issue. The nerves and muscles are not affected by the alkaloid, as both structures, after death, responded readily to galvanic irritation. The drug produces, like its co-alkaloid quinia, a diastolic arrest of the heart, and is also a poison to the cardiac muscle. With regard to the action of cinchonidia on the spinal function, I find that it produces a lowering of reflex activity, like quinia, by stimulation of Setschenow's centre. The following experiment explains itself:

Exp. XI.—Frog. Reflex action in 10 seconds. At 2.04 P.M., injected hypodermically $\frac{1}{10}$ grm. of cinchonidia. 2.07, respirations become excessively labored; 2.10, breathing has ceased, and reflex action is manifested in 30 seconds; 2.20, reflex action entirely lost; 2.22, the cord is cut; 2.40, reflex action in upper extremities is still absent, but below the point of division (that is, in the lower extremities) reflex action is shown in 10 seconds.

The return of reflex action to its normal level, after division of the medulla spinalis, shows that the function must have been under the control of the stimulated centre of Setschenow. I have never noticed a primary stage of increased reflex activity with cinchonidia, as in the case of quinia, under the use of small doses. The action of cinchonidia on the circulation is similar to that of quinia, as some few experiments lead me to conclude. There is a lowering in the rapidity of the pulse from the beginning, and a marked fall of the arterial pressure, under the action of cinchonidia. The causes of these effects were not made out.

From the foregoing study I am led to the following conclusions:

I. Quinia in minute doses increases reflex action by stimulating the sensory nerves. In larger doses the reflex action is depressed by stimulation of Setschenow's centre.

II. Quinia causes at first an increase in the number of heart-beats, due to an early paralyzant action on the peripheral inhibitory nerves. The later sedation of the pulse is owing to its influence on the cardiac muscle.

III. The lowering of arterial pressure is due to the action of quinia upon the heart itself.

IV. Cinchonidia depresses the reflex activity by influencing, like quinia, Setschenow's centre.

V. Cinchonidia lowers both the pulse and the blood-pressure, the causes probably being similar to those by which quinia produces its action.

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SOME REMARKS ON THE DIAGNOSIS AND TREATMENT OF INCIPIENT PHTHISIS.

Read before the Philadelphia County Medical Society, May 12, 1880,

BY CARL SEILER, M.D.

THE subject of the diagnosis and treatment of phthisis has been so often and so extensively discussed that I feel some hesitancy in again bringing it forward; and I would not do so if I had not something to offer which I think has as yet not received sufficient attention from the general practitioner, and which, if fully recognized, will aid him very much in the treatment of this wide-spread malady.

The diagnosis of the earliest stages of phthisis, when but little structural change has as yet taken place in the tissue of the lungs, is, as we all know, often very difficult, because both percussion and auscultation give almost negative results. In this stage, as well as in later stages of the disease, the mucous membrane of the larynx affords in almost all cases an index to the condition of the lungs; and the changes which have taken place in the color and shape of the larynx are so characteristic that when once seen they are not easily forgotten or mistaken for anything else.

These changes consist, first, in a peculiar ashy-gray discoloration of the mucous membrane lining the pharynx and larynx, which is different from the mere anæmic paleness so often seen in other diseases, and is very difficult to describe, but when once seen is not easily forgotten.

Second, they consist in a peculiar swelling of certain parts in the larynx, especially of the arytenoid cartilages and epiglottis, which differs materially in shape and appearance from ordinary œdema of the parts. The arytenoid cartilages, either on one side or the other, or on both sides, assume the shape of a pear, the largest amount of swelling being near the inter-arytenoid commissure, while it tapers off in the line of the ary-epiglottic folds. Usually we notice this pyriform swelling on that side which corresponds with the lung most affected, but occasionally we find cases in which the reverse is true. Less frequently we find a *turban*-like swelling of the crest of the epiglottis, which at the same time assumes a horseshoe bend. These two conditions have been observed to stand in a certain relation to the disease of the lung, so that in the cases where we observe the pyriform swelling of the arytenoid cartilages the lung-tissue has not as yet begun to break down; but as soon as the breaking down takes place in the lung the epiglottis begins to be affected. In the literature of the subject I find that but two authors (Cohen and Seiler) make mention of these facts, while all others either do not refer to them at all or merely hint at them by speaking of the phthisical œdema of the larynx.

In the laryngeal mirror these swellings do not give to the observer the impression of simple œdematous tumefaction, and free scarification of the parts does not relieve the symptoms — aphonia and dysphagia—caused by them.

Microscopical examination of a number of larynxes showing these swellings reveals the fact that the loose submucous tissue is largely infiltrated by a small-celled infiltration, with a tendency to the formation of depôts with cheesy centres, and, what is rather remarkable, an hypertrophy of the glands and follicles, so as to amount almost to an œdematous growth. There is also a certain amount of serous infiltration into the net-work of the submucous tissue, which only tends to increase the swelling. It is true there are some few cases in which the larynx does not participate in the lung disease, and where we do not find either the pyriform swelling or the turban and horseshoe shape of the epiglottis; and, strange as it may seem, these latter cases are more frequently affected with acute tuberculosis than with pulmonic phthisis.

Frequently, after having seen the laryngeal evidences of phthisis, I have been unable to obtain signs of lung disease by the ordinary methods of auscultation and percussion, and only by percussing the lung as a whole, so as to obtain the fundamental tone of the air contained in the whole lung, have I been able to demonstrate a variance between the two lungs greater than in health, or a decided difference in pitch between the diseased lung and a healthy one, taking size and chest-expansion of the patient into consideration.

The pitch of the percussion-note, even when small areas of the lung are examined, forms the best and surest indication of changes taking place in the lung-tissue, and it is much more easy to remember it than a peculiar character of the tone, because we can give it a place in the musical scale and thus write it down, which we cannot do with a peculiar timbre or quality of tone. I am fully aware that but few persons not musicians are able to place any tone in its proper place in the musical scale without the help of some instrument upon which they can sound a tone corresponding to the tone to be located, and I have found that the so-called xylophone is the best means for placing or recording the percussion-pitch of the chest, because the little pieces of wood when struck lightly with a wooden hammer covered with some soft substance, such as cloth or felt, will give a tone remarkably like the percussion-note of the chest. By tapping one after the other of the pieces of wood composing the xylophone we can easily find the one which corresponds nearest in pitch to the percussion-note, and thus can identify it. A change for the better or worse, indicated by a rise or fall in the pitch of the percussion-note, can thus be determined with great accuracy at a subsequent examination of the patient.

The treatment of cases of pulmonary phthisis which has of late been adopted by myself and others, and which has been crowned with remarkable success, is based upon a clear understanding of the pathological changes taking place in the lung-tissue.

If a section of lung from a patient who has suffered from chronic pneumonia be placed under a microscope it will be found that the air-cells are filled with a granular débris, in which large, swollen epithelial cells, in various stages of fatty degeneration, may be seen. These cells, which originally lined the inner surfaces of the air-cells, have become loosened from their site, thus leaving the walls denuded of their protecting covering. These unprotected walls, being in close contact with the products of decomposition taking place in the débris of infiltration, must necessarily yield to their corroding influence and break down, so that soon two neighboring air-cells merge into one. It is evident that a lung or portion of a lung thus infiltrated cannot supply the necessary oxygen to the blood, nor can it eliminate the carbonic acid, and the effect of this soon becomes evident in a general lowering of vitality, which, if a predisposition exists, leads to the formation of tubercles in the part of least active circulation,—the affected lung.

We see, therefore, at a glance that if we can remove the obstruction to the entrance of air into the air-cells we may hope for a regeneration of the epithelial covering of these air-cells and a re-establishment of the normal function of the lung, which, if the lowered vitality be raised by proper nourishment, may become permanent in time.

This I have in a number of cases found to be possible by simple inhalations of some slightly stimulating vapor and by the administration of rich animal food, both internally and externally.

The manner in which the inhalations are taken is of very great importance, and the directions which I give my patients are to inhale from any convenient vessel, such as a teapot or a funnel placed over a cup, or from an inhaling-bottle containing a mixture of hot water and tar, tinct. benz. comp., balsam of tolu, or something similar, with a deep inspiration, so as to fill all available space in the lung, and then to hold the breath as long as possible. In order to insure this latter direction, I tell the patient to count the number of seconds he can hold his breath, thus making him cognizant of the improvement which is sure to follow within a few days.

The effect of such forcible inhalation is to force a small amount of air into the obstructed air-cell, which, in the form of a small bubble, insinuates itself into the centre of the semi-fluid mass of débris. The subsequent forcible expiration will cause this air-bubble to seek an outlet, and in doing so will force a small portion of the débris into the capillary bronchus in connection with the air-cell. This is repeated over and over again until the amount of air in the formerly completely obstructed air-cell is sufficient in quantity to force the plug of débris into the larger bronchioles, from whence it is expectorated. A proof of this theory may be found in the fact that the expectoration of the patient soon becomes white and frothy where it had previously been yellow and viscid, and also that after a few weeks the pitch of the whole lung will be found lower on percussion, indicating that a greater amount of air is contained in it.

Besides these medicinal inhalations, the respiration of plenty of fresh air, both day and night, and moderate exercise in the open air, are strongly to be recommended. One of the principal causes—in my estimation at least—of the great lowering of the vitality of the whole system must be looked for in the retention of a large amount of effete material which cannot be thrown off by the lungs. The skin must therefore be made to act as the main channel through which this waste material is carried out of the system, and at the same time may with advantage be made use of to carry new and nutritious material into the system, especially when the digestive organs are weakened.

Great benefit will be found from daily inunctions of oil over the chest and back, and from rubbing whisky into the skin of the arms and legs of the patient.

The local lesions in the larynx should be treated according to well-known principles, and very great relief can thus be afforded the patient from the often distressing symptoms. Internally, cod-liver oil, alcoholic stimulants, extract of malt and beef, as well as tonics, should be exhibited; but care should be exercised so as not still more to derange digestion; and for that reason expectorants and syrups of any kind should be avoided, especially as they can be of little use.

THE ANALGESIC EFFECTS OF RAPID AND FORCIBLE RESPIRATION.

BY BENJAMIN LEE, M.D., PH.D., F.A.A.M.,
Philadelphia.

Read before the Philadelphia County Medical Society, May 12, 1880.

I DESIRE to preface the following brief note by disclaiming all sympathy with the set of pseudo-Græcists in our profession who think that by overloading our vocabulary with strange sesquipedalian words to designate conditions long since recognized—words concocted with diligent study of the "Scholar's Companion" and the English-Greek half of the Lexicon—they are establishing a claim to be considered original workers in the field of medical science. The word *analgesia* is not among the ambitious fledglings of these amazing latter-day philologists. It is to be found in "Dunglison's Medical Dictionary," edition of 1853. Composed of *α* (privative) and *αλγος* (pain), it is used to describe that condition of the body in which there is insensibility to pain without loss of the sense of touch or feeling. The term *anæsthesia* comprehends the latter: hence the necessity for a distinctive word.

Some time during the early part of the spring of 1879 I sent my child's nurse, who was suffering from a severe toothache, to Dr. Bonwill, the well-known dentist and inventor of the very ingenious galvanic hammer for driving fillings into the cavities of teeth. She went, much against her will, as she wished to have the tooth extracted by Dr. Thomas, under the influence of protoxide of nitrogen, and had a great dread of pain. I insisted on the other course, thinking that Dr. Bonwill might consider the tooth worth saving. That was not his view, however, and the young woman came home greatly delighted, saying that "Dr. Bonwill had pulled her tooth, and had not hurt her a bit." On questioning her as to what means he had adopted to prevent her feeling pain, she said that "he had made her breathe as fast as ever she could, and before she knew it the tooth was out," and, although she was conscious of the jerk, she suffered not a particle of pain. I was, of course, already familiar with Dr. Bonwill's claim to the discovery of a new means of rendering the body insensible to pain for a brief space of time, and with Dr. Addinell Hewson's experiments in this connection, but this was the first case in which it had been successfully accomplished occurring in my own immediate experience. The result had been so entirely satisfactory that it strengthened the determination I had already formed to try the method in some case of minor surgery requiring but a short time for the operation. An opportunity was not long in offering. My friend Dr. Atkinson, on leaving the city to attend the meeting of the American Medical Association at Atlanta, left a number of his patients under my care. Among them was a young man of about five-and-twenty, of delicate build and appearance and nervous temperament, in whom a painful swelling in the perineum had within a few days developed itself.

I first saw him on the morning of April 30. I found him with a quick, frequent, irritable pulse; skin somewhat dry, but not hot; and a countenance of considerable anxiety. The inner side of the right thigh at its junction with the perineum was the seat of a tense, fluctuating tumor, of the size of a large teacup, portions of which were very sensitive to the touch. I ordered a flaxseed poultice, prescribed a quinine mixture, and promised to return the following morning and open it. I found him in a state of intense apprehensiveness, so much so that I feared his nervousness would prevent his giving the method a fair trial. However, he obeyed my instructions implicitly, and after he had continued the rapid inspirations for about three-quarters of a minute I evacuated the abscess with a curved bistoury, making an incision of at least an inch in length. It gave exit to several ounces of thin whitish pus, in which I could detect no urinous odor. He continued the rapid breathing for at least half a minute after the act of incision, and was much surprised when I told him to desist, as the dreaded "lancing" was over. He insisted that he had not felt a particle of pain, only a sensation of strong pressure upon the abscess. This sensation, as of heavy pressure, or of a blow received, I have frequently met in evacuating abscesses where an anæsthetic has been given in insufficient quantity to produce unconsciousness,—inducing, that is to say, analgesia, but not perfect anæsthesia or narcosis. On the 3d of May (the second day after the operation) the urine became somewhat turbid, and, placing it under the microscope, I found it to contain a considerable quantity of pus. This left no doubt of the nature of the abscess, which further declared itself in a few days by the passage of urine through the wound on micturition. Under the use of stimulating injections and the employment of the catheter the sac rapidly diminished up to a certain point; it then ceased to heal, and showed a disposition to ulcerate at two or three sites along the track of the sinus, notwithstanding the use of the nitrate of silver probe and the insertion of gelatin pencils of sulphate of zinc. I accordingly decided, with the approbation of Dr. Atkinson, who had now returned, to lay open the fistula up to the point where the tissue appeared healthy. This I did on the 11th of May, using scissors and a grooved director, and dividing two bridles, each about an inch broad. Under the analgesia induced by rapid and deep breathing this little operation was as painless as the previous one, although a much severer test, as it occupied at least thrice as much time.

The subsequent history of the case possesses no interest in this connection. In two other instances in which I tried this method my success was not so gratifying. One was that of a lady on whom I lanced a felon. Her nerves were completely unstrung by the suffering through which she had passed, and I found great difficulty in making her breathe with sufficient force and rapidity. She certainly suffered pain at the moment of incision. Of course it was to be expected that severe pain should continue some time after the operation. Another was that of an intensely hyperæsthetic, hysterical lady in whom I attempted to inject a pile with carbolic acid. Owing to the dulness of my needle (to my shame I confess it), the pain produced was so great that I was obliged to desist. Within a few weeks, one of my daughters, a girl of sixteen, of a tolerably quiet nervous temperament, has had a perfectly-sound, deeply-rooted bicuspid extracted by Dr. Bonwill while under the effect of the rapid breathing. She assures me most positively that she did not experience the slightest sense of pain. More recently one of my sons, a boy of nine, of remarkably steady nerves, has had two teeth drawn at one sitting, using the same method. He kept his eyes open, saw all that was going on, was conscious of the application of the forceps, but felt no pain. He describes a sensation of slight giddiness as produced by the effort of respiration.

To pretend to generalize from so small a number of trials would, of course, be absurd, but I consider that they demonstrate that it is quite possible, by a continuance of rapid and forcible respirations for a certain length of time, to induce such a condition of the nervous system that pain shall not be appreciated by the sensorium, and also that the success of the experiment will be considerably modified by the temperament of the patient and the condition of the nervous system at the time it is undertaken. How this singular effect is produced, whether by the formation of carbonic acid in the blood and throughout the tissues in such quantity as to exert its well-known analgesic effects on the ultimate nerve-filaments, or upon the brain itself; or whether the phenomenon belongs to the domain of so-called biology, a partial hypnotism from fixation of the attention; or whether the brain is thus suddenly either congested or rendered anæmic to such an extent as to benumb its perceptions, are questions which I do not pretend to be able to answer, but which, I trust, Dr. Bonwill himself, whom, through the kind courtesy of the directors, I have the honor to introduce to you, and to whose more extended and more learned unfolding of the subject my modest paper has been but the preface, will deal with in his usual intelligent and thorough manner.

1503 Spruce Street, 1880.

SARCOMATA OF THE LONG BONES.

Read before the Philadelphia Academy of Surgery, October 6, 1879,

BY S. W. GROSS, M.D.,

Surgeon to the Philadelphia Hospital and to the Jefferson Medical College Hospital.

I.—PERIOSTEAL OSTEOID ROUND-CELLED SARCOMA OF THE ULNA.

A BOY aged 2 years was brought to the clinic of the Jefferson Medical College Hospital in September, 1879, on account of a smooth, hard, fusiform tumor of the left ulna, which measured three inches and a half in length and four inches more in circumference than the sound limb. The temperature was elevated 2½° Fahr., the subcutaneous veins were enlarged, the skin was normal, and no glandular involvement could be detected. There was local suffering, with some tenderness on manipulation. The mother informed me that at the age of three months the child began to complain of pain in the arm, as indicated by crying and supporting the limb. Six months later she detected an ovoid swelling which started about an inch below the elbow and extended downwards for two inches. Its further growth was uninterrupted, and it had increased one inch and a quarter in circumference, by actual measurement, during the past three weeks.

I removed the extremity by amputation through the middle of the arm on the 27th of September, and the child returned to its home, with the wound healed, at the expiration of three weeks and a half.

After the growth was cleared of the overlying parts, the entire ulna, except its lower inch, was found to be surrounded by a firm, lobulated mass, which passed under without involving the radius. On section it cut hard. It was three inches and a half long by two inches and a half wide, and its upper limit corresponded to the coronoid process, although the cartilage of the greater sigmoid cavity was being invaded. The surface of the section was of a dull white tint, dotted with several rosaceous points and three of cheesy metamorphosis. The cancellous tissue of the bone was obliterated, and delicate spicules radiated from it to the circumference of the growth. Four enlarged lymphatic glands, none of which, however, exceeded the size of a small bean, were detected along the line of the brachial artery above the elbow. The microscope showed that the soft portion of the tumor was composed of small round cells, embedded in a finely granular matrix, and that the glands had undergone sarcomatous degeneration.

The points of interest in the case are the early age of the patient, the seat of the tumor, and the lymphatic involvement. As I have demonstrated elsewhere,* from a study of forty-five instances of osteoid sarcomata of the long bones, the youngest subject was 12 years of age; the ulna was affected only once; and the lymphatic glands were implicated in only 6.25 per cent. of all instances.

The prognosis of these tumors is most unfavorable, since two-thirds of all cases die with metastatic deposits whether they are subjected to operation or not, the secondary growths being most common in the lungs, lymphatic glands, and osseous system.

June 25, 1880.—The child was brought to me to-day with a metastatic periosteal tumor, as large as the half of an ordinary orange, over the squamous portion of the right temporal bone. Its general condition was excellent, and the stump was sound.

II.—GIANT-CELLED SARCOMA OF THE RADIUS.

A married colored woman aged 59 years was admitted into the Jefferson Medical College Hospital on the 11th of September, 1879, on account of a tumor of the lower third of the left forearm, which was first noticed, twelve months previously, as an immovable lump as large as a hickory-nut, about two inches above the wrist, on the radial side of the limb. It grew continuously and painlessly until it extended upwards and downwards and around the forearm, and finally measured three inches more in circumference than the sound extremity. During the last three months, from being perfectly smooth it had become bosselated. Its consistence was firm, except over the radial side, where there was parchment-like crepitation, and at the bosses, which were soft and elastic. There was some local increase of temperature; but the skin, veins, and lymphatic glands were normal.

On the second day after admission I amputated through the middle of the forearm, and discharged the patient at the expiration of two weeks. On dissection the lower third of the radius was found to be occupied by a moderately firm spherical tumor, which was provided with a partly osseous and, for the greater part, partly periosteal capsule. The cut surface was of a yellowish-white tint, mottled with dark-brown spots. Microscopic sections disclosed the characteristic structure of giant-celled sarcoma, the multinucleated elements being very abundant.

The case is interesting pathologically from the seat of the tumor and from the advanced age of the patient. Of twenty examples of myeloid tumor of the long bones which I recently analyzed,† only six, or 8.57 per cent., occupied the radius; while of sixty subjects in whom the age was noted, only five, or 8.33 per cent., had reached the fiftieth year.

With regard to the treatment, I have only to say that I deemed amputation the only proper expedient. Excision even of several inches of both bones may, however, be resorted to, as was done by Mr. Henry Morris, of London, with a fair prospect for a useful limb. Mr. Morris writes me that, with the aid of a leather splint to support the hand, his patient dresses her children, accomplishes all her household duties, cuts up her food unassisted, and can also pick up a pin with moderate facility.

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* Amer. Jour. Med. Sciences, October, 1879, p. 366 *et seq.*

† Amer. Jour. Med. Sciences, July, 1869, p. 25 *et seq.*

III.—PRIMARY CENTRAL ROUND-CELLED SARCOMA OF THE HUMERUS, WITH SECONDARY TUMORS IN THE OSSEOUS SYSTEM AND ABDOMINAL LYMPHATIC GLANDS.

The wax model before you was made from the body of a mulatto boy fifty-one months of age.

At the age of three years and a half he began to complain of pain just below the left shoulder-joint, the cause of which was not appreciable to the mother, as the limb was not swollen or discolored, nor did its contour differ from that of its fellow. During the ensuing four weeks the suffering continued, and at the expiration of that time a small swelling was detected near the articulation, which continued to increase without interruption until it finally measured five inches more in circumference than the sound limb. Shortly before death it was tender, soft and elastic, bosselated, and hot to the touch, while the skin was glossy, engorged, and the seat of ecchymotic spots, and the subcutaneous veins were slightly enlarged.

One month after the first symptoms disclosed themselves at the shoulder a swelling appeared over the left parietal bone, which gradually extended over the entire corresponding side of the head, until just before death it mounted three inches and a half above the level of the side of the cranium, and two inches and a half above the vertex. It was hot, soft, and fluctuating; the veins of the head and face were abnormally prominent, and the upper eyelids were ecchymotic.

Five months after the first symptoms in the left arm the lower end of the left femur began to enlarge, the swelling having been preceded by pain for one week. At the date of death it was two inches and a half greater in circumference than its fellow. At this time, or three months before death, the belly began to swell, and pain was experienced near the right shoulder, which terminated in the appearance of a tumor in the head of the right humerus one week before the fatal issue, when a swelling also became apparent over the left lower maxilla. For the last two weeks of its life the child's condition notably failed, it having rapidly lost flesh, appetite, and strength, and its sleep having been broken by suffering, although its mental faculties were unimpaired. Death ensued from exhaustion on the 10th of September, the total duration of life from the first appearance of the disease having been only nine months.

At the post-mortem examination the tumors were found to have originated in the medulla of the involved bones. Their tissue was rosaceous-white, soft, and almost diffluent. Of the left humerus nothing remained save the condyle; the left femur was involved throughout its lower three-fourths; while the tumor of the right humerus was confined to its upper epiphysis. Each one was surrounded merely by a periosteal capsule. In deference to the wishes of the mother, the cranium was not examined.

The retroperitoneal lymphatic glands formed a tumor as large as an adult head, which was most prominent on the left side, and adhered closely in front to the small intestines. Its surface was lobulated, its consistence was soft and elastic, and its tissue, on section, was of a rosaceous-white tint mottled with extravasations of blood. The left kidney was atrophied; the right kidney was enlarged one-third and pale; the liver was hypertrophied, fatty and friable, and adherent to the diaphragm. The contents of the thorax were normal. On microscopical examination all of the growths were seen to be composed of a small round-celled structure.

The successive development at short intervals of tumors in the osseous system and in the abdominal lymphatic glands shows that the growth in the left humerus was the primary disease, and that the others were secondary to it from the transference, through the blood-stream, of infecting germs to other parts.

The exceptionally early age of the subject, and the unusually rapid course pursued by the disease, invest the case with more than ordinary interest. In the paper already referred to, of twelve examples of central round-celled sarcoma of the long bones, the youngest was nine years of age, while the average duration of life of those not subjected to operation was twenty-three months. These facts and the number of secondary deposits make the case, so far as I know, unique. The nearest approach to it is one recorded by Billroth, at the age of nine years, in which in eight weeks after the disarticulation at the shoulder for a round-celled tumor of the humerus, secondary growths appeared upon the parietal and occipital bones and upon each mastoid process. Some months later the sternum became affected, and on death a similar neoplasm was found in the brain.

ACUTE MUSCULAR RHEUMATISM OF THE ABDOMINAL MUSCLES SIMULATING NEPHRITIC COLIC AND PERITONITIS IN A CHILD EIGHT YEARS OLD.

BY JAMES TYSON, M.D.,

Professor of General Pathology and Morbid Anatomy in the University of Pennsylvania, one of the Physicians to the Philadelphia Hospital, etc.

I CANNOT but think that the following report will be useful to those who, like myself, have not previously met an instance of this interesting condition.

I was called, May 28, to see Nellie S., aged 8 years, whom I found with high fever and complaining of a sharp pain in the præcordium, accompanied also by oppression which suggested pericarditis. A careful examination of the heart and lungs showed neither to be involved, and I concluded that the pain was muscular. In forty-eight hours it had yielded to simple counter-irritation by mustard and an aconite fever mixture. But at my visit thirty-six hours after I was first called she complained of a little abdominal pain. As stated, the next morning the chest was quite free of pain, but the abdominal pain had increased. There was also sharp pain in the lumbar region radiating to that of the bladder, which, indeed, was the focus of greatest pain. The urine was very concentrated, high-colored, and acid in reaction. She had previously had a similar attack, with high-colored, scalding urine, with painful micturition, under the care of another physician. These facts inclined me to believe that she was suffering with nephritic colic. Hourly doses of paregoric and an alkaline diuretic mixture during the day failed to give her relief by evening. The anodyne and alkaline mixtures were continued during the night with poultices, but morning came without relief. Her suffering was now extreme. I increased the anodyne without effect, but by 4 P.M. her pain was so great and her cries so heart-rending that I thought best to etherize her. At the same time I gave her five-drop doses of laudanum every half-hour. By the time she had five doses she dropped off to sleep, and was sleeping quietly at nine in the evening when I visited her. The next morning the pains had returned. I now thought best to have her bladder sounded by my friend Dr. Charles T. Hunter, who found it free from any foreign body. At this time the knees were drawn up, the thighs were flexed upon the abdomen and the legs upon the thighs, and any attempt to straighten them caused the extremest torture; the belly was a *little* swollen, but the pulse did not exceed 100, and was not quick or irritable. There could not be said to be fever: the decided fever with which the attack commenced had long before disappeared. I had from the beginning said there was no peritonitis, but I now began to have misgivings. I continued the poultices and laudanum in sufficient dose to subdue the pain. The quantity required for this purpose was found to be less, and a good night was secured by moderate amounts, not more than two doses of five drops each. The next morning the abdomen was perfectly flat, or rather concave, the very reverse of swollen. The pain had almost completely passed away, and one-fourth grain of opium every three hours was sufficient to keep it in abeyance. In the evening she was free from abdominal pain, but complained of pain in her knee and ankle-joint, so that she could not straighten her limbs without much suffering, which I satisfied myself was not in her abdomen. The next day I had to leave the city early, and my friend Dr. Horace Williams saw her for me. All the joints of the lower extremity were now involved,—the hip-, knee-, and ankle-joints,—while the abdomen was free from pain. This settled the matter and made it certain that the attack was rheumatic. Under the use of salicylic acid these symptoms rapidly disappeared, and by Sunday, ten days after the first symptoms appeared, she had completely recovered.

As I stated at the beginning of this report, the interest which attaches to this case lies in the fact that we have in the rheumatism of the abdominal walls a condition which in some respects resembles peritonitis; and while important symptoms were wanting, the resemblance of others was so very close as to cause me much anxiety. The idea of this pain being muscular did not occur to me. A knowledge of its possibility would be of infinite service in another instance, and I felt that it might be to others.

LOTION IN ACNE ROSACEA.—

℞ Flor. sulphuris, ʒi;
Tinct. camphoræ, fʒss;
Aquæ destillat., f℥i.—M.

NOTES OF HOSPITAL PRACTICE.

LOUISVILLE CITY HOSPITAL.

CLINIC OF WM. H. MATHEW, M.D., PROFESSOR OF OBSTETRICS AND GYNÆCOLOGY IN THE KENTUCKY SCHOOL OF MEDICINE.

(Reported by A. H. Kelch.)

GENTLEMEN,—This woman says she began to menstruate at the age of 14. She is now 25, and the mother of one child 6 years old. Up to the birth of her child she had always been regular and healthy. Immediately after that event, however, she suffered from what she considers dropsy, which continued for three years, during which time her menses did not appear. About three years ago her menses reappeared, but were irregular both as regards time and amount, the blood frequently coming away in clots. She has suffered from dysmenorrhœa, with constant pain in the inguinal region, intensified at her periods, pain in the back, limbs, shoulders, and head, and withal has been very nervous. She has also suffered from a constant leucorrhœal discharge. She thinks there is some prolapse of the womb. These subjective symptoms are sufficient to indicate the necessity for making a physical examination of the uterus, with the view of definitely ascertaining the nature of the disease from which she is suffering. They point unquestionably to some form of uterine trouble, but just what it is we are unable to say until we avail ourselves of the objective symptoms.

For the development of these signs we institute both a digital and an instrumental examination. The vulva here is perfectly healthy in appearance, with the exception of a slight laceration of the perineum. The cervix is in its normal position, with the os a little patulous; the body of the uterus also appears to be in its normal position. I bring the uterus into view with the speculum, and introduce the uterine sound into the cavity to determine its position, its depth, and the condition of the lining membrane. The uterus is movable, and is therefore not bound down by any perimetritic bands. She has certainly never suffered from any serious form of inflammation around the uterus. The depth of the cavity is a little more than three inches, and the pressure of the sound causes some pain. There is some hypertrophy with chronic endometritis of a low order, which has been nearly subdued by the treatment to which she has already been subjected. All the treatment now necessary in her case is to keep her secretions and excretions in a healthy condition, give her good nourishing diet, and a proper amount of out-door exercise. Have her to inject every day into the vagina, against the neck of the uterus, a gallon of water as hot as can be borne.

The first effect of this is to dilate the vessels of the pelvic cavity, but a second effect is to contract them, and thus promote a healthy circulation through the pelvic organs, removing the irritability of the uterus and promoting the absorption of any hypertrophy that may exist within its walls, thereby causing the diseased organ to assume a healthy condition.

Case II.—This is an interesting case, gentlemen. This woman says she is 75 years old, but from the history she gives we know that is impossible. She is the mother of nine children, and seems to have been healthy throughout her fruitful period. Her present trouble, she says, began after the birth of her last child, five years ago. It is a remarkably rare occurrence for a woman to give birth to a child at 70 years of age, so we will presume this woman's age to be not more than 50 or 55.

This illustrates to you the important fact in gynæcology that you cannot always base your conclusions on the history your patient gives you of herself. There is sometimes a disposition to represent symptoms that do not exist, for the purpose of inducing you to introduce a sound into the uterine cavity to bring about abortion. There are other instances where patients are incapable of giving you the exact facts connected with their disease. You must be careful to take everything she says into consideration, and compare one part of the history with another, and see that each part is consistent with every other.

This enlargement of the abdomen which you perceive probably began three or four years ago. She says it began when her menses became irregular. It is of considerable size now, and a source of constant annoyance to her, impressing those acquainted with her with the idea that she is pregnant. And this case simulates pregnancy in many respects. The menses have disappeared, the abdomen is enlarged, and she feels sensations like those caused by the movements of a child after quickening; the breasts are swollen and painful. But in a physical examination there is no trouble in making the diagnosis. We find by percussion that instead of the flat sound observed in pregnancy there is resonance. We find by palpation that instead of a solid elastic tumor perfectly defined the enlargement is soft and no tumor can be marked out. We find on digital examination that the uterus is of the proper size and the cervix of normal hardness. We find on auscultation that there are none of the peculiar sounds diagnostic or pathognomonic of pregnancy. There is no uterine or funic souffle nor fœtal heart-sound. The motions which simulate those caused by the movements of the child we feel to be simply peristaltic movements of the bowels and gas passing from one part of the alimentary canal to another. In instances of this kind you will be prepared to make a diagnosis with almost an absolute degree of certainty; but you may be taxed sometimes to know how to convince these patients and their friends that pregnancy does not exist.

This phenomenon usually occurs at the climacteric, or at a time when there is either a great desire to become or not to become pregnant. Immediately after marriage these cases occur, and again in women who have had illicit connection and who are in dread lest they should become pregnant. So you see there is sometimes a mental power at work in the development of this condition.

These phenomena are often reflex symptoms resulting from a metastasis of nerve-force to the bowels, causing an unhealthy condition of the intestinal canal, by which gas is rapidly generated.

The treatment must often be prolonged over a considerable period before you can convince the patient that she is not pregnant. The bowels should be kept in a healthy condition, the liver should be stimulated; see that the portal circulation is not obstructed, and that digestion is properly performed.

The injections of hot water, as previously recommended, are useful in these cases, acting in the same way, viz., by promoting a healthy circulation through the pelvic organs.

Case III.—From this woman we learn that she has not menstruated, until about two months ago, for nearly three years. Previous to that time her menstruation was regular and painless. At the last three periods it has been painful and scanty, the pain being located over the left inguinal region. She has had during this cessation considerable leucorrhœa. There is now, she says, not so much as formerly.

On making a digital examination, I find the cervix is low down and projecting against the anterior wall of the vagina at the upper part of the urethra, and posteriorly I observe that there is a tumor in the sacral cavity, which I suppose to be the body of the uterus. This, then, probably is retroversion. I will introduce the speculum and show how to perfect the diagnosis, because there is a possibility of a mistake from the digital examination alone.

Now introducing the sound, you see it passes in downward towards the sacral cavity very easily, the only narrowing being at the external os. I can move the uterus about freely; so there are no adhesions.

Here is a condition that requires something to be done. This patient was well until three years ago. At that time she began to suffer with pains, intensified at each menstrual period. We find the uterus retroverted. Local applications cannot cure that condition, but by the introduction of a pessary we restore it to its proper position, and by that means relieve the distressing symptoms which this retroversion has produced.

This malposition interferes with the circulation through the body of the uterus, and we very soon have an enlargement as the result. This hyperplasia or hypertrophy will gradually increase the displacement, so that finally the uterus may protrude beyond the vulva. By restoring it into its proper position it may gradually return to its natural size, and the round and utero-vesical ligaments that were stretched will contract and resume their healthy condition, and when this restoration has taken place we may remove the pessary, and the uterus will often remain in normal position.

Retroversion is the most frequent of all displacements. It sometimes occurs as a congenital malformation when the neck of the uterus is too long. The neck is forced down the inclined plane of the posterior vaginal wall and is thrown forward, and the body drops backward. Again, it may result from the development in the posterior wall of a tumor or any other enlargement that causes, or is caused by, an interference with the circulation on that side. In those cases where the uterus is merely retroverted we find the treatment more satisfactory than where it is flexed upon itself, because in the latter instance we have the uterus constantly congested from obstruction to the flow of the menstrual discharge. There is often decided pain caused by the uterine contraction for the purpose of expelling from the cavity the obstructed menses.

I shall now replace the uterus in position and hold it there by a Hodge pessary. I will prove to you that it is in the proper position by the reintroduction of the sound. You see that it enters the uterus with its concavity anteriorly. Should the pessary cause pain after a day or two, I will remove it and substitute another; otherwise it will be productive of absolute harm. In order to be of any service it must fit smoothly and pleasantly. Just here lies the greatest objection to or argument against the use of the pessary. The complaints that are made against it are the result of carelessness in not selecting an instrument to suit the individual case.

It is not always that a pessary can be used at first, and we may then substitute a pledget of cotton wet in glycerin. This accomplishes two purposes: it holds the uterus in its normal position, and the endosmotic power of the glycerin causes a discharge of water from the parts and relieves congestion.

Or, when the vagina is tender, we may use the inflated gum ring. Treatment is often necessary before using the pessary to cure uterine, vaginal, or perimetritic inflammation, or to cause the absorption of bands that bind the uterus down in its abnormal position. In these instances we find the pessary will not often accomplish our purpose, and we must treat the case with the object of reducing the inflammation: if endometritis, by the intra-uterine application of those medicines—such as tinct. iodine, carbolic acid, etc.—that are used for this purpose, and other treatment that may be indicated; if vaginitis, after the usual fashion of treating this disease; the perimetritic bands may best be removed by counter-irritation over the inguinal regions, the hot-water injections daily, and close attention to the habits and general health of the patient.

TRANSLATIONS.

Harmlessness of Sulphate of Copper as used in giving Color to Canned Vegetables.—At a recent meeting of the Société de Médecine publique et d'Hygiène professionnelle (*Le Progrès Méd.*, 1880, p. 410) M. Gallipe read an interesting report on the employment of sulphate of copper for the purpose of giving a brighter green to prepared vegetables. A commission appointed by the society had presented a report to the effect that while the authorities might properly permit this treatment of vegetables on the part of manufacturers, yet the packages in which such vegetables are sold should have the fact stamped legibly upon them, in order that the purchaser should know by what means the color had been obtained. M. Gallipe thought this unfair and illegal. If the process was injurious, the sale of such vegetables should be interdicted; if not, the manufacturer should not be forced to divulge his methods to the public. Entering into the subject of the use of sulphate of copper for this purpose, M. Gallipe showed that it was quite innocuous. A much greater danger to the consumers of canned vegetables is the presence of lead from the solder used in canning, which in the case of canned peas is sometimes found in the proportion of seven to eight milligrammes to the kilogramme. The solder is made of a mixture of lead and tin. Tin alone should be used. The following resolutions were, on motion of M. Gallipe, adopted by the society:

"In consideration of the fact that copper exists in the animal economy, and also in many foods, in larger quantities than it is found in greened vegetables prepared with care;

"And in consideration also of the fact that after twenty years' experience, on a large scale, no accidents have ever been known to occur from copper used in this way, and also that it is unadvisable to interfere unnecessarily in methods of manufacture;

"We conclude that there is no reason for interdicting the process of coloring vegetables under consideration, providing that the proportion of copper used does not pass beyond a certain specified limit.

"Taking account of the fact that the quantity of copper fixed by certain green vegetables—as haricots, for instance—is more considerable than that found in peas, it is recommended that this limit should be four milligrammes of metallic copper in one hundred grammes of beans.

"There is no necessity for prosecution unless manufacturers pass beyond the limit mentioned."*

EMPLOYMENT OF NARCOSIS IN EXPLORATION OF THE ŒSOPHAGUS.—Dr. Girard (*Cbl. f. Med.*, No. 21, 1880) recommends chloroformization of the patient, who is then placed in Rose's position,—*i.e.*, with the body horizontally disposed upon the operating-table, and with the head hanging over the edge, but supported and slightly pulled out by an assistant, in order that the cervical vertebræ shall not be pressed against the edge of the table, so as to be pushed into the line of the œsophagus and interfere with the introduction of the sound. The operator stands on the left side of the patient, and can then easily introduce the sound or other instrument. This position has the following advantages: 1. The mouth remains open spontaneously, or can very easily be kept open. 2. The back, neck, and head can easily be fixed in any desired position. 3. The oral cavity, pharynx, and gullet are all in a nearly straight line, so that straight instruments of not too great calibre can be introduced without difficulty. The physician holds the sound in the supinated hand, and introduces it in a horizontal direction with a movement like the first movement in catheterization. These movements can be executed much more easily, exactly, and gently than when the patient is sitting up,—a point of great importance in relation to the examination of obstructions, strictures, etc. A single assistant only is needed, and the narcosis can be carried out without any trouble.

SUBCUTANEOUS MYOTOMY AS A MEANS OF TREATMENT OF THE PAINS CAUSED BY CERTAIN EXOSTOSES.—Le Dentu (*Cbl. f. Med.*, No. 21, 1880; from *Bull. de la Soc. de Chir.*), in a paper on exostoses, illustrated by numerous cases, maintains that the pain caused by these growths is dependent either upon inflammation of the superjacent tissues or the serous sacs, or upon compression of neighboring nerves, or, finally, upon contraction of muscular fasciculi due to compression. He comes to the following conclusions: 1. It is unnecessary and even dangerous to remove exostoses which do not give rise to pain, compress any important organ, or give rise to any other inconvenience, unless they show signs of rapid growth. 2. When the reverse is the case, exostoses must be removed, excepting in cases where there is inflammation, which is to be removed by other means. 3. Pain as a result of irritation and contraction of muscles is best relieved by subcutaneous division of the muscular fasciculi lying over the exostosis. This division should be practised on the side towards which the exostosis tends, or, better, on both sides of the tumor. Under favorable circumstances a cure is attained in three weeks. 4. This myotomy has the double advantage of perfect result and absolute safety, and therefore deserves the name of a new method.

INJECTIONS OF CHLORAL IN BLENNORRHAGIA.—Dr. Pasqua (*Bull. Gén. de Thérap.*) uses a solution containing a scruple of chloral to four ounces of rosewater. Two injections daily, retained for a few moments, are sufficient. A slight smarting sensation is first produced, which soon gives way to an agreeable feeling of coolness. At the end of the third or fourth day of treatment the desire of urination and the erections become less painful, the discharge diminishes, becomes more clear and limpid, and ceases completely by the eighth to the tenth day.

TUBERCULAR ULCERATION OF THE ANUS.—Gosselin (*Cbl. f. Chir.*, 1880, No. 20; from *Gaz. Méd. de Paris*) gives a case of tubercular ulceration of the anus, together with a list of previously reported cases, and bewails the impotence of therapeutics. Volkmann, in this disease as in similar local tubercular affections,—tuberculosis of the tongue, pharynx, lips, external skin,—uses the sharp spoon and the thermocautery with the best results.

HYDRO-THERAPEUTICS IN NEURALGIA.—Beni Barde (*Le Reveil Méd.*, vol. i., No. 1) recommends the douche called *Ecossaise*,—that is, an alternate stream of hot and cold water thrown with some force against the affected part. The hot stream, at first warm, is gradually raised in temperature as high as can be borne, and then suddenly changed to cold. Finally, a general cold douche should be used if it can be borne.

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* If French peas are to have copper in them, we'll es-chew them.—ED. P. M. T.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JULY 3, 1880.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, May 12, 1880, Dr. John H. Packard, Vice-President of the Society, in the chair. Dr. Carl Seiler made some remarks on the "Diagnosis and Treatment of Phthisis" (see page 496), and Dr. Benjamin Lee read a paper on the "Analgesic Effects of Rapid Respiration" (see page 498), after which Dr. Bonwill described the method of producing anæsthesia by rapid breathing, with a history of its discovery and its present applications to dentistry and minor surgery.

DISCUSSION UPON INHALATION IN THE TREATMENT OF PHTHISIS.

Dr. J. Solis Cohen thought that the frequency of the cases noticed by the lecturer, in which the throat symptoms were prominent, and in which the changes in the larynx led to the examination of the lungs for tubercular phthisis, might be explained by the fact that in a practice principally of throat diseases such cases would naturally attract observation. It had not been the speaker's experience that the laryngeal lesions uniformly appeared before the lung disease could be detected by ordinary methods. We often meet with cases in which this course is taken, but, on the other hand, many cases progress to the end without any laryngeal symptoms at all.

In regard to treatment, he had of late years had considerable experience in the use of compressed air forced into the lungs in cases of chronic bronchitis and so-called phthisis. During the past year he had employed a simple apparatus, which answered the purpose of a mechanical expectorant very well. It consisted of the common ball-pump (such as is used in a hand-atomizer) with a short tube attached. The patient takes a deep inspiration, then, holding his nose and placing the tube in his mouth, he compresses the ball fifteen or twenty times in rapid succession, producing hyperdistention of the lungs, which is followed by full expiration and free expectoration, with great relief to his breathing, the process being repeated several times a day.

Dr. J. T. Eskridge took exception to a statement of Dr. Seiler's regarding the pathology of phthisis, which he considered as beginning in the interstitial connective tissue and lymph-spaces, and not in the epithelium of the air-cells, although this is subsequently involved. He pointed out the fact that hemorrhage may be the earliest sign of phthisis. In tubercular patients he did not believe that inhalations could produce any permanent benefit, although useful for their mechanical effect in chronic catarrhal pneumonia.

Dr. Charles B. Nancrede did not agree with the last speaker, who had quoted the theory of Rindfleisch in regard to the origin of phthisis, which Cornil and Ranvier do not accept at all. Nor could he quite accept Dr. Seiler's views, as they would do away with the absorption theory. An inflammatory deposit breaking down anywhere in the system may lead to a deposit of tubercles. Where hemorrhage occurs from the lungs, it is not necessarily due to tubercular disease; but the exuded blood remaining in the air-cells may subsequently caseously degenerate and produce pulmonary phthisis.

Dr. Eskridge did not wish to be understood as saying that hemorrhage was the first symptom of phthisis, but that it often occurred before the disease is discovered by auscultation and percussion.

Dr. J. G. Richardson said that phthisis and tubercle were not always used as synonymous. In regard to Dr. Seiler's explanation of the discharge of the plug of caseous products from the air-cells, he thought it more probable that the expansion of the neighboring air-cells was the main factor, rather than the direct introduction of air into the collapsed cells themselves.

Dr. Seiler explained that he did not intend to discuss tubercle, but simply pulmonic phthisis, which he regarded as distinct; although he was aware that in a paper recently read before the Pathological Society they had been considered as identical. In regard to the absorption view, he believed that the deposit would take place at the points of least circulation. He would not reject the explanation of the last speaker as to the *modus operandi* of inflating collapsed lobules. He had not intended to quote cases, but he would merely say that in the first case upon which he tried the inhalation method, two years ago, a perfect recovery followed: the patient is now entirely well. He had just seen a woman who some time ago presented herself with undoubted evidences of phthisis in the left apex. Laryngoscopic examination showed the "turban"-shaped swelling of epiglottis and of arytenoid cartilages. Inhalations of benzoin were directed to be taken, and cod-liver oil and whisky were given. No other medicines were used. In three weeks the patient had gained eight pounds of flesh, was feeling well, and had no symptoms whatever. There was very little difference now between the two sides of the chest, and the pitch of percussion-note had fallen much lower over the affected apex, and there was great improvement in the amount of air entering the lungs. When last seen, she appeared in good health.

Dr. Cohen remarked that the lecturer's hypothesis about the extension of the plug from the bronchiole by the forcing of air past it was on the same principle as removing a plug of cerumen from the ear by injecting a gentle stream of water.

Dr. George Hamilton said that the late Dr. Parrish depended more upon attention to hygiene in the treatment of consumption than upon internal remedies, and that his practice was very successful.

Dr. Seiler said that he placed much more reliance upon the mechanical effect of the deep inspirations in distending the air-cells than he did upon the substances used for inhalation. It is necessary to medicate the vapor, however, in order to obtain the co-operation of the patient. In conclusion, he called attention to the prevailing idea that night air is bad for consumptives. Very many of these patients work all day long in mills, and their only opportunity for exercise in the fresh air is in the evening. They spend the day in the vitiated atmosphere of the mills, and it is important that they should go out when they can. Fresh air is a necessity for them; very little medicine is required. Phosphoric acid (dilute) may be used as a tonic often with advantage.

Discussion on "Analgesia from Rapid Breathing" was postponed until the next meeting.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, APRIL 22, 1880.

THE PRESIDENT, DR. S. W. GROSS, in the chair.

AT a conversational meeting held on April 22, 1880, Dr. J. M. Da Costa read a paper on "Pathology of Tubercle" (see *Times*, June 19, 1880, page 469).

DISCUSSION.

Dr. **NANCREDE** said that in this disease there was an important series of facts not yet adverted to, but which had an important bearing upon its pathology. In any inflammation of the lungs there is more or less of a cellular infiltration. In certain individuals an inflammation of any organ—*par excellence*, the lungs—results in an exudate composed chiefly of *cells*, while in others the effusion is mostly non-corpuscular. Now, the only way in which solid tissue, like cells, can be absorbed is by fatty degeneration and gradual breaking down,—in other words, *caseation*. This conduces to certain evil results, and primarily to the destruction of the infiltrated lung, or other tissue, which is so crowded with cells that its blood-supply is mechanically cut off. Secondarily the broken-down detritus is absorbed, resulting in the deposit of gray miliary tubercle. In those constitutions where inflammation results in an enormous cell-proliferation we are pleased to call them scrofulous or tuberculous, but in reality there is nothing specific in the cause or result of the inflammation. The tendency to cell-proliferation, which must caseate from deficient blood-supply and destroy the involved tissue, is not specific. In the same kind of constitution a very slight blow or twist of a joint will often end in a similar chronic destructive disease, while the severest injury to an average patient will result in an acute inflammatory *serous* effusion, which is readily absorbed. Now, no one maintains that the *blow* is a specific irritant. Just so is it with the lungs. Let any simple irritant cause inflammation in one class of cases, and effusions readily absorbable result. Let the same exciting cause act in another set of patients, and an unabsorbable, caseating exudate will ensue. This condition of system may or may not be inherited, for anything that lowers the vital powers tends to lessen its ability to remove the broken-down detritus. More facts and arguments might be adduced in support of this view, but sufficient has been said to indicate the direction in which our observations and researches should be pushed to arrive at a clear and correct view of this obscure subject.

Dr. **TYSON** said the phenomena of catarrhal pneumonia in children, as compared with that in adults, bore upon the relation of the caseous process to tuberculosis. Most pneumonias in children are catarrhal, and recovery from them is the rule, while the same lesion in adults frequently terminates in phthisis. If the two processes were the same, phthisis would be a more frequent termination in children.

Dr. Tyson thought the point referred to by Dr. Nancrede—the tendency to the formation of cellular deposits in certain persons generally said to be of scrofulous diathesis—was an important one. It is in cases where the cellular deposit persists and cannot be dislodged that tuberculosis results. Where the proportion of cells in the inflammatory process is small, and they are readily gotten rid of, tuberculosis does not ensue.

Dr. **LONGSTRETH** said it was true that in the vast majority of lung specimens affected with phthisis it was not possible, either from the macroscopic or microscopic appearances, to determine with certainty whether the disease originated as a tubercular deposit, followed by catarrhal pneumonia and destruction of the lung tissues, or whether catarrhal disease was the initial step. Our inability to decide is due to the confused appearances presented, and to the degenerative changes, both of the morbid products and the normal tissues of the lung, which have occurred.

In respect to the recognition and the classification of certain cells as typical of tuberculosis, he thought that we made a great mistake. In days gone by it was customary to describe certain cells as cancer-cells, looking upon them as cells with a character foreign to any formation found in the normal organism. These cells and those of all other morbid growths have been considered to be foreign entities which have taken up their residence in our bodies, growing and producing destruction by their growth. Such ideas are the continuation of the old notions of pathology, when every disease was considered to be a possession of our bodies either by a devil or a god. At the present time, in accordance with the teachings of physiological pathology, we trace all symptoms and appearances of disease back to the physiological type of growth, and exclude the devil, and even the gods and other foreign entities, from all share in the morbid processes.

So it is with tubercle. In examining the morbid appearances of the lung subject to destructive changes of this order, it is wrong to look for cells of a foreign nature as typical of this disease. The lung is composed normally of bronchial tubes lined with a mucous membrane, of air-vesicles lined with a mucous-membrane epithelium and backed by various tissues of the connective-tissue type, and of blood-vessels, nerves, and lymphatics. And, excepting when a morbid new formation results from metastasis, all the diseased processes of the lung commence in one or the other of these various structures, and throughout their duration continue to exhibit the changes which are characterized by the physiological type of growth of the individual tissue involved. Of course, in the lung, as in most other parts of the body, but especially in the lung, from the close proximity and the intimate connection of the various component parts, diseased processes taking their rise in one tissue necessarily involve the adjacent parts, and cause them to take on diseased action; but the parts thus involved secondarily exhibit the morbid action belonging to them, and follow the physiological type inherent in them. Thus, in catarrhal pneumonia, while the morbid process, commencing in the bronchial mucous membrane and extending later to the air-vesicles, affects primarily the epithelial structures of the lung principally, yet the connective tissue and other constituent structures are also involved in the inflammatory processes. The diseased action is, however, not something new and foreign to these parts, but is an exaltation of the physiological type of growth and function. No new and foreign cells are developed, and no new or foreign products are secreted. The normal cells grow more rapidly and the normal secretion is more abundant; and as these cells live a rapid and tumultuous existence, so they die a rapid and tumultuous death.

The interdependence of the morbid processes taking place respectively on the epithelial surface, and in the connective tissues of the air-vesicle walls, as shown to exist in catarrhal pneumonia, is paralleled by the reverse action which results when a tubercular deposit has occurred in the connective tissue of the air-vesicle wall. The presence of such a formation leads to a catarrhal inflammation of the epithelial lining of the air-cells, and from this time forward the appearances presented by these tissues and their morbid products exhibit similar retrograde destructive changes to those found in catarrhal pneumonia.

What the tubercular formation is, and from which tissue—connective, lymphatic, or vascular—it is derived, are uncertainly-answered questions. That tubercle is connected with and is a formation within one or the other of these three named structures is certain, and therefore that it is of connective-tissue origin—for these three structures belong to the connective-tissue type—is also certain. What is the cause of the tubercular formation and what gives rise to its appearance in the connective-tissue type of structures are also unknown. That tubercle makes its appearance in the lung, as well as in other parts of the body, subsequent to and apparently as the result of catarrhal inflammation, seems to be well established. That the lung is capable of self-infection in this manner is true, and it is just in these cases that one of the greatest difficulties in the pathology of tubercle arises. When we see the two pathological processes going on side by side,—the catarrhal pneumonia and the tubercularization,—the confusion of appearances is so great, and the generative changes are usually so advanced, that it becomes impossible to decide which morbid process was the prime mover in the phthisical destruction of the lung-tissue.

It seemed to him evident from clinical studies that the catarrhal inflammation which so frequently gives rise to tubercular infection does not always or necessarily have its seat in the respiratory mucous membrane. The digestive canal is equally capable of furnishing the initiative step in the infection, especially so as the disturbance of nutrition, caused by the defective digestion, favors the development of tubercular disease. A chronic catarrhal gastritis, with the attendant pharyngeal irritation, not infrequently is an antecedent phenomenon to a bronchial or pneumonic inflammation of a chronic variety. The diseased process extends from the digestive mucous membrane tract to the respiratory. It is probable that a close investigation and comparison of a large number of cases would show that the kitchen is a large factor in the induction of phthisical destruction of the lung, and that it would be found that the doughnut-and-pie breakfasts so common in rural New England life have as much to do with lung diseases as the rigor of the climate of that section of the country.

Dr. F. P. **Henry** said the paper of the evening incidentally demonstrated that the too rigid separation of the clinical study of disease from that of its histology is detrimental to progress. The cases quoted by Dr. Da Costa were of unusual interest and value, from the fact of their careful observation during life as well as post mortem. Although pneumonic phthisis is often developed in individuals of apparently robust constitution, it is exceedingly rare for it to occur in those with a well-developed vascular system, evidenced by a strongly-acting heart and a full, strong pulse.

Much attention has been paid to the lymphatic system by students of the etiology of phthisis, and yet comparatively little is known regarding the lymph circulation and the properties of the lymph-cell. For instance, it is not known whether in stasis of lymph, diapedesis of its cells may occur. Supposing this to take place, it would be tolerably certain that a depôt of such immature cells would readily soften and break down. Following the same theoretical line of thought, another point of inquiry would be, as to whether such cells, as escaped destruction, would have a tendency to the formation of *adenoid* in preference to fibroid tissue.

Certain facts support the view that a sluggish lymph circulation is concerned in the origin of phthisis. It was long ago noticed by Lebert that in cases of stenosis of the pulmonary artery tuberculosis is exceedingly frequent, and it is also generally accepted that there is a certain degree of antagonism between mitral disease of the heart and phthisis. These facts have an important bearing upon the view that a sluggish lymph circulation is of influence in the production of pneumonic phthisis. The lymph circulation is but a continuation of that of the blood, and is therefore largely dependent upon the heart. In stenosis of the pulmonary artery stasis of lymph is to be looked for, whereas in mitral disease, the vessels of the lung being engorged with blood, the pressure upon the lymph-spaces and vessels would be a hindrance to the migration of lymph-cells, supposing such to occur under any circumstances. As the lymph-cells possess the amœboid movement, it is, to say the least, not unreasonable to suppose that they may be possessed of other properties of the white blood-cells. The study of the lymphatic circulation in connection with the etiology of phthisis is yet in its infancy.

Dr. **Eskridge** said he did not think that most cases of phthisis were due to a bad diet. Clinical experience teaches that in catarrhal phthisis the digestion is good. He had seen many cases where the lung was consolidated and the digestive organs had remained healthy. But in tuberculosis the digestion is faulty, yet symptoms of tubercle have preceded the digestive troubles. Dr. Eskridge thought most cases of tubercle were due to hereditation. There is no reason why taints should not be transmitted. Experiment has shown the possibility of artificially-induced epilepsy becoming hereditary. If certain cells are affected in the parent, why should they not be so charged in the offspring? If healthy parents are necessary for healthy children, is the opposite less true?

REVIEWS AND BOOK NOTICES.

Photographic Illustrations of Skin Diseases. By George Henry Fox, A.M., M.D., Clinical Professor of Dermatology, Starling Medical College, etc. Parts 7, 8, 9, and 10. New York, E. B. Treat & Co., 1880.

The 7th part of Dr. Fox's now well-known atlas contains portraits of lupus *vulgaris*, lupus *erythematosus*, epithelioma *superficiale*, epithelioma *rodens*, and epithelioma.

The picture of lupus vulgaris is one of those handsome and complete portraits, like that of acne and comedo, which have made Dr. Fox's atlas a standard for photographic work in dermatology. The disease is well represented, and on a sufficient scale to show its peculiarities as well as a photograph can show them. The representation of lupus erythematosus is not so happy. The three pictures of epithelioma represent typical cases, but the first two would have looked better if they had been made on a larger scale, and the third would, we think, have been more useful if taken at an earlier period of the disease. When so far advanced as in this case, little doubt can exist as to diagnosis, but at an earlier stage we have known epithelioma and syphilis to be mistaken for each other by surgeons of some experience. In Part 8, the portraits of tinea tonsurans and tinea circinata (tricophytosis, as Dr. Fox prefers to call the disease) are very good, and those of lichen planus, particularly that on the arm, are highly satisfactory. The picture of lichen ruber is simply a nightmare,—a succubus of dermatology. Part 9 is, we think, one of the best that have yet appeared. Kerion, unfortunately, is not well shown, but lepra maculosa, molluscum, and especially erythema multiforme, please us greatly. In Part 10 the portrait of phtheiriasis corporis is worth mention as very good.

The letter-press throughout is admirable.

A. V. H.

The Hysterical Element in Orthopædic Surgery. By Newton M. Shaffer, M.D. New York, G. P. Putnam's Sons, 1880.

This is a very handsome and a very satisfactory book devoted to the consideration of hysterical joint affections, and including curvatures of the spinal column. It contains little that is absolutely novel, its essential portions, indeed, having been published previously in the journals; but it contains much that is important and that is very well stated. We commend it heartily to such of our readers as want a succinct and trustworthy monograph upon the subject of which it treats. We have only a shadow of a criticism to offer, namely, that there is a slight taint of the tendency which we noted recently as so strong in certain other New York books,—to magnify the author's self by minifying his compeers. For scientific purposes it is rarely necessary to state how "one of the foremost surgeons of the city diagnosed this case to be so-and-so, whilst I pointed out his error;" not that the present book has much of this, only enough to show the need of some repression.

THE PRACTITIONER'S REFERENCE-BOOK. Second Edition, Revised and Enlarged. By R. J. DUNGLISON, M.D. Philadelphia, Lindsay & Blakiston, 1880.

This curious and more useful than scientific collection of practical medical information seems to meet a demand whose existence it required much sagacity to foresee. The favorable reception of the first edition has led to an increase in size and, no doubt, of value in the book, which is now about one-half larger than it was. The new additions are on How to Write Metric Prescriptions; The Use of Hypodermic Medication, Galvanism, and Clinical Thermometers; Diagnostic Tables of Fever; Tumors of the Groin; Acute Pulmonary Diseases, and Diseases of the Larynx and Pharynx; various formulæ, antidotes, rules of medical etiquette, etc.

The clear, pointed style of the old edition is everywhere preserved, and we commend Dr. Dunglison for saying I when he means I, and not "we," in the sickening, mock-modest, egotistic manner affected by some writers of in other respects good English.

HOMŒOPATHY: WHAT IS IT? By A. B. PALMER, M.D.

This book, of about one hundred pages, is a clear, well-written, quiet discussion of homœopathy. It is scarcely conceivable that a sane person could read it and continue belief in the system; but such things will happen. Discussion sometimes seems almost hopeless; and yet in discussion lies the cure for the evil. So we sincerely hope this brochure will be much read. It is an excellent book for a physician to circulate among his patients.

THE DIAGNOSIS OF DISEASES OF THE SPINAL CORD. By W. R. GOWERS. London, J. & A. Churchill, 1880.

This brochure, of about eighty rather closely printed pages, is an excellent *résumé* of our knowledge of the subject upon which it treats. Its facts and statements have that air of authority which comes from personal acquaintance with disease, both in the hospital and in the laboratory, as well as the semblance of book-learning. Clearly and concisely written, we commend it most heartily.

PRESCRIPTION-WRITING. By M. A. MANN, M.D. Third Edition. New York, G. P. Putnam's Sons.

This is a very good book of its class, and the fact that it has reached a third edition shows that there are not a few students or practitioners who feel the want of some more detailed directions than exist in the text-books on therapeutics.

POST-MORTEM EXAMINATIONS. By Professor RUDOLPH VIRCHOW. Translated from the Second German Edition by Dr. T. P. SMITH. Philadelphia, Presley Blakiston, 1880.

A good translation of Professor Virchow's well-known and authoritative manual.

STUDENTS' AIDS SERIES.

This is a number of small reprints published by G. P. Putnam & Sons, of New York, which are evidently intended to be carried in the breast-pockets of medical students as perpetual mentors and reminders of the terrors of examination. We have looked over those which pertain to chemistry, materia medica and therapeutics, and physiology. They are very unequal in the attention given to the various studies, but are all concise and carefully prepared. The student who had mastered the aid for chemistry fully we should think about fit for a chemical professorship, whilst he who relied upon the materia medica and therapeutics might have difficulty in passing some examinations we have known. To give even a foolish reason why three volumes should be required for the subject of chemistry, and only one for physiology and one for materia medica and therapeutics, would require at least one of the wise men of Gotham.

SEA-SICKNESS. By GEORGE M. BEARD, M.D.

This is a small, well-written brochure, describing sea-sickness with wearisome minuteness, and advocating very strongly the use of the bromides, to the extent of mild bromism, commenced two days before going to sea and continued during the whole voyage. The bromide of sodium is preferred. There is one tendency very strong in Dr. Beard, which, if not checked, will certainly injure his professional repute among his brethren,—namely, in popular writings to claim as his own special knowledge or discovery facts which are very familiar to all of us. We had occasion to speak of this in a review not long since, and now we read that "the popular and *professional view* has been that sea-sickness was mainly a disease of the stomach." To Dr.

Beard, then, has been reserved the honor of discovering that it is a functional disease [*sic*] of the nervous system!!

It gives us pleasure to announce the appearance of a new edition of Professor Tyson's very trustworthy "Guide to the Examination of Urine." Lindsay & Blakston, Philadelphia.

We are glad to announce that vol. iii. of Hartshorne's edition of Reynolds's "Practice of Medicine" has been published; so that this valuable work is now complete.

GLEANINGS FROM EXCHANGES.

Successful Treatment of Cancer by the Internal Use of Chian Turpentine.—No little stir has been created in English medical circles by a communication from Professor Clay, of Birmingham, in the *Lancet* of March 27, on "The Treatment of Cancer of the Generative Organs by a New Method." Although Professor Clay's experience extends over only a twelvemonth, and he cannot positively assert that a permanent cure has been attained in his cases, yet an amount of relief has been secured to the patients which has not been afforded by any other plan of treatment. As the result of the trial of a large number of remedies, Professor Clay concluded that the remedy for cancer must be internal; that it must be of such a nature as not to interfere with the functions of the special organs, or otherwise injuriously to affect the nutrition of the body; and that it must be capable of being administered for a length of time sufficient to effect the removal of the disorder. The remedy which seemed to fulfil these indications most fully is Chian turpentine, and after much reflection Professor Clay was led to make trial of this substance. His first case was that of a woman of 52, suffering from scirrhous cancer of the cervix and body of the uterus. Hemorrhage was excessive, pain in the back and abdomen agonizing, and cancerous cachexia well marked. The patient evidently had not a long time to live. The uterus was so extensively destroyed by the cancerous ulceration that its cavity readily admitted three fingers. Professor Clay prescribed Chian turpentine, six grains; flowers of sulphur, four grains; to be made into two pills, to be taken every four hours. No opiates were prescribed or lotions used. No change was to be made in her diet or occupation. On the fourth day after taking the medicine the patient reported herself greatly relieved from pain, and was in better spirits, but she complained of a large amount of discharge. On examination, the vagina was found filled with a dirty-white secretion, so tenacious as to be capable of being pulled out rope-like. The os was quite contracted and would now scarcely admit the finger, and the surrounding swelling or cancerous infiltration of the cervix was much reduced. The patient's general health was improved, and the medicine well tolerated. At the end of three months it was noted that the parts were ragged and uneven and did not bleed on roughly touching them. The speculum showed several cicatricial spots. The patient was able to walk a mile to the hospital from her home. She disappeared at this stage of the treatment, and was not again seen. The second case was that of a woman of 31, who had a carcinoma of the cervix which was the size of a hen's egg. There were pain and hemorrhage. Under the use of the turpentine the growth seemed literally to melt away, disappearing entirely in the brief period of four or five weeks. In a third case the turpentine was given in emulsion made as follows: one ounce of the turpentine was dissolved in two ounces of pure sulphuric ether; of this solution one half-ounce was added to four ounces of solution of tragacanth, one ounce of syrup, forty grains flowers of sulphur, water to sixteen ounces. Of this one ounce was taken three times daily. Although the uterus was enlarged to the size of a cricket-ball, twenty weeks sufficed to bring the parts to almost their normal size and condition. Other cases proved equally successful; and the remedy has also been used with apparently good effect in cancer of other organs. Professor Clay believes turpentine to act as a direct poison on cancerous growths, causing their ultimate death. There appears to be very little true Chian turpentine at present in the market, but the demand will probably bring it out. Venice and Canada turpentine, which are said to be inert, are usually substituted for it.

Parasites in Muscle in Typhoid Fever.—At a recent meeting of the Pathological Society of London (*Lancet*, April 24, 1880), Dr. G. Buchanan read a paper on some appearances, probably of parasites, in the voluntary muscles of enteric fever. In the case examined, the pectoral muscle contained what were taken to be parasitic worms, one or more of which were seen in each microscopic specimen, and apparently, from their movements, they were still alive. Their dimensions were wholly different from those of trichina spiralis, being about a quarter of it in length and breadth. They were thickest in the middle, with one end larger than the other. They resembled nematoid worms, both in the proportion of their breadth and length and in the presence of an interior canal, apparently interrupted by some intervening organ or tissue. Another case showed the same parasites, but less abundantly. They did not occur in all muscles equally, none having been found in the diaphragm; nor are they evenly distributed through a given muscle.

Certain much smaller bodies having a possible relation to the larger parasites were also found. With advancing decomposition the parasites, but not the smaller bodies, were found to be more numerous.

PHYSIOLOGICAL PROPERTIES OF EMETIN.—Podwyssotzki (*Lancet*, vol. i., 1880, p. 500; from *Arch. f. Exp. Path.*) states that the emetin sold usually contains tannic acid and coloring-matter. The subcutaneous injection of .005 to .01 gramme of the pure emetin in frogs causes gradually-developing paralysis and loss of reflex excitability; the irritability of the muscles, however, remains unaltered. Injections made into the exposed hearts of frogs cause after a short period various irregularities, the ventricle contracting peristaltically, its force diminishing, and its frequency being less than that of the auricle. Ultimately the whole heart passes into a condition of perfect relaxation, or diastole, which cannot be removed either by mechanical stimuli or by atropin. After the injection of about a grain and a half in cats and dogs, they become very weak, fall over to one side, and die in feeble convulsions, in consequence of cardiac paralysis. The drug does not appear to influence the vagus.

TREATMENT OF EPILEPSY.—Dr. Gowers, at the close of his "Gulstonian Lectures" on Epilepsy, delivered before the Royal College of Physicians (*Lancet*, April 10, 1880), gives his opinion as to the remedies most useful in the treatment of this disease. These are briefly as follows:

Our chief trust is and must be in the bromides, and chiefly the bromide of potassium. The larger the dose the longer the maximum effect is deferred. When small doses are given, the maximum effect is sooner over. If small doses are given, they should not be given more than two or three hours before the expected attack. Frequent doses are best. If given infrequently, a proportionately larger dose must be given to insure the effect. Dr. Gowers does not think it advisable to give more than a drachm or a drachm and a half daily. If this does not arrest the fits, the bromide should be combined with some other drug. Larger doses given alone will not usually succeed.

Digitalis alone is not permanently successful in curing the fits, but it is a most valuable adjunct to the bromide, especially where there is heart-disease.

In rare cases belladonna alone will arrest attacks; usually the combination of belladonna and bromide is more useful.

Indian hemp is useful in some cases, and combined with bromide seems to exercise most influence over attacks in cases in which there is persistent headache. The same fact has seemed true of the combination with gelsemium, which is occasionally of marked service.

In ordinary epilepsy opium or morphia alone, or combined with bromide, is of little use. In the *status epilepticus*, where bromide, even in large doses, is useless, Dr. Gowers has found small hypodermic injections of morphia of great service.

The combination of bromide with aconite and hydrocyanic acid is of little use. Now and then the combination of bromide and iodide seems to be useful, but usually it is not so even in inherited syphilitic cases.

Zinc in the form of oxide may be given up to twenty grains a day; above this it is not well borne, on account of its nauseating qualities. Bromide of zinc is useless and badly borne.

The addition of arsenic to bromide produces no diminution in the number of attacks: it is useful, however, for the purpose of preventing the bromide eruption.

Bromide of camphor appears to be useless. Turpentine has been known to produce very striking benefit, but only in cases of hystero-epilepsy. Iron is doubtful, but may be used in certain cases.

Borax in doses of ten to fifteen grains, twice or three times a day, has done good in cases where bromide fails, and is, in Dr. Gowers's opinion, certainly worth a trial. Picrotoxin has been found to be useless, as also have benzoate of sodium and nitro-glycerin. In hystero-epilepsy Dr. Gowers recommends the hypodermic injection of apomorphia in the dose of one-twelfth grain. This infallibly puts an end to the attacks, and, except for the slight subsequent nausea, is not disagreeable in its effects.

SALICYLATE OF QUININE.—Dr. Archibald Hewan writes to the *Lancet* (April 3, 1880) on the subject of salicylate of quinine, which he believes entitled to a high place among the remedies for rheumatism. Having himself been suffering from rheumatism in the left knee and thigh for three days previously, he was obliged to be about during the whole of the day, and by evening was "dead beat" and hardly able to walk, with a temperature of 101°. He took twenty centigrammes (three grains) of the salicylate of quinine and went to bed. Next morning there was still fever and pain, but the temperature was considerably less; all that day he remained in bed, taking three doses of salicylate of quinine at intervals of four hours. In the evening and night he found he could move himself with greater ease, and by next morning felt completely relieved, and was able to walk about, having only a slight bruised feeling in the muscles; went out and did a full day's work. Continuing the use of the medicine a day or two longer, Dr. Hewan found himself completely relieved, and strongly recommends the medicine in similar cases.

POISONING BY STRYCHNIA SUCCESSFULLY TREATED BY HYDRATE OF CHLORAL.—Dr. George Gray reports a case (*Brit. Med. Jour.*, 1880, p. 476) where a laborer took twenty grains of strychnia in whisky, vomiting shortly afterwards, but within an hour falling into the spasms characteristic of this form of poisoning. One drachm of hydrate of chloral was administered in one ounce of water. After swallowing the chloral the convulsions grew weaker. A quarter of an hour later an emetic of thirty grains of sulphàte of zinc in warm water was given, and, when this had acted, a drachm of tannin. This was vomited also. After an hour, as there was still slight tremor in the muscles, and as there was no drowsiness, half a drachm of chloral was again administered, with another half-drachm several hours later. The patient recovered, and was about his work again within two days.

NITRO-GLYCERIN. — A correspondent of the *British Medical Journal* (March 27, 1880) gave, in the case of a lady suffering with cramps in the stomach, something less than a drop of a one-per-cent. alcoholic solution of nitro-glycerin. In two minutes the pulse fell from 140 to 50, a clammy sweat covered the patient's features, and she became senseless. Stimulants to the nose and brandy were quickly given, and in about three minutes more she began to recover. The pain was completely gone, and did not return all that night or the following day. The patient said she felt like two people, and so strong was this impression that, though perfectly rational in her conversations and unexcited in her manner, she could not shake it off, but frequently checked herself when about to make allusion to her imaginary double.

BENZOATE OF SODA IN GONORRHŒAL OPHTHALMIA.—Dr. Dor, who for the last two years has used the benzoate of soda with great success in the purulent ophthalmia of infants, has recently had the opportunity of treating a well-marked case of gonorrhœal ophthalmia, recovery taking place in a few days, without any opacity being left. He kept ice compresses constantly to the eye. The benzoate of soda was employed in a twenty-per-cent. solution, and tannin in a ten-per-cent. solution, ten drops being instilled every three minutes. All secretion which issued from the eye was removed by means of a wash consisting of a one-hundred-per-cent. solution of the benzoate.

TRANSVERSE DEPRESSIONS ON THE NAILS. —Dr. James Sawyer, in a note to the editor of the *Lancet* of April 3, agrees with Dr. Duckworth that "there is a rather more rapid formation of nail than that of two complete growths in a year." From his own observations, he should say that from three to four months are usually occupied in the passage of a furrow from the lunula to the end of the nail. These grooves are very common. They are sometimes to be seen on all the finger-nails; often they occur only on the thumb-nails. If a person's nails be free from transverse furrows, we may conclude, almost with absolute certainty, that he has not had a serious illness in the last three or four months. He has found three or four of these depressions, equidistant and parallel, on the thumbnails of women who are the subjects of dysmenorrhœa,—a furrow marking each painful "period."

IODIDE OF STARCH AS AN ANTIDOTE.— In a memoir read before the Medical Society of Florence, Dr. Bellini recommends iodide of starch as an antidote for poisons in general (*La Presse Médicale Belge*). This compound has no disagreeable taste, and has not the irritant properties of iodine; hence the author concludes that it may be administered in large doses. It may be given without fear in all cases where the poison is unknown. It will be found very efficacious in poisoning by sulphuretted hydrogen gas, the alkaloids and alkaline sulphides, ammonia, and especially by alkalies with which iodine forms insoluble compounds. In this respect it is preferable to iodated tincture of iodine. It aids in the elimination of salts of lead and mercury. In cases of acute poisoning an emetic should be given before the antidote is administered.

OPERATION FOR EPITHELIOMA OF THE LIPS.—Dr. Peillon, in a work recently noticed in the *Lancet* (vol. i., 1880, p. 569), describes clearly and well several useful ways of removing epitheliomata of the lips. In Desgronges's operation, if a large part or the whole of the lower lip be removed by a V-shaped incision and the flaps brought together along the middle line, it is obvious that the upper lip will be pouted forward and the buccal orifice much deformed. Desgronges remedies this by removing a triangular piece from each end of the upper lip. He first widens the orifice by an incision outwards on each side, and the removal of the flaps shortens the lip sufficiently to restore the appearance of the mouth very fairly.

FRACTURE OF THE SPINE FROM DIVING IN SHALLOW WATER.—Mr. Wilson (*Lancet*, vol. i., 1880, p. 562) reports the case of a lad of 18 "who took a header" into four feet of water. As he did not rise to the surface, an attendant went after him and brought him to shore, when he was found completely paralyzed, and after lingering five months died. The autopsy showed the fifth cervical vertebra fractured vertically through the body. The spinal cord at this point was reduced to a mere thread.

IMPROVED NITRATE OF SILVER CAUSTIC. —Dr. Sawostizki called the attention of the Moscow Surgical Society to an improvement in the preparation of sticks of nitrate of silver. It consists in melting together five parts of nitrate of silver with one part of nitrate of lead, forming an argentum plumbo-nitricum. Sticks formed of this are preferable to those of the ordinary nitrate, as they are not easily broken, and can be pointed just like a lead-pencil.

Treatment of Ozæna.—Mr. Pugin Thornton recommends the following:

℞ Sodii carbonatis,
Sodii biboratis, āā ʒij;
Liquoris sodæ chlorinat., fʒss–fʒij;
Glycerinæ, f℥i;
Aquæ, ad f℥viij.—M.

It is applied cold by means of a hand-ball spray apparatus.

MISCELLANY.

The Chair of Pathological Anatomy in the Paris Faculty.—It appears that the proposal to create a new chair of pathological anatomy has met with the greatest opposition on the part of the Faculty of Medicine. As there is urgent need for instruction on this branch, this opposition seems surprising, until we learn that the professor who was designed for the chair by the minister of public instruction, M. Cornil, whose work in connection with morbid histology is well known, happens to be a member of the Chamber of Deputies. The Faculty of Medicine affect the belief that the whole affair looks very much like a job.

More Truth than Poetry.—*Mosquitoes as a Stimulant to Reproduction.*—A gentleman travelling in the lowlands of this State was surprised to find a great number of children at the different houses which he passed. Stopping at a house where a numerous progeny seemed to abound, he inquired of its maternal guardian for the cause of this universal prolificness. "Oh, my dear sir," she answered, "*the mosquitoes are so bad in this country that we folks can't sleep at night!*"—*Arkansas Medical Monthly.*

A Curious Calculation in Dentistry.—Dr. Farrar, of Brooklyn, N.Y., publishes, in the *Dental Laboratory*, a statement that not less than half a ton of pure gold, worth half a million of dollars, is annually packed into people's teeth in the United States, and that at this rate all the gold in circulation will be buried in the earth in three hundred years; also, that three millions of artificial teeth are annually supplied, and that only one person in eight has sound teeth.

Homœopathic Medicinal Springs.—Dr. Greubler, of Westphalia, homœopathist, gives the waters of Vichy, which have an irregular and intermittent action, preceded by a subterranean noise, followed by a violent eruption of mud, water, and gas, strongly impregnated with the hydro-sulphurous odor, in cases accompanied by flatulence and more or less violent explosions of gas and scybalæ.

Model Nursery at Paris.—The municipal authorities of Paris have decided to establish a model nursery in connection with the children's hospital, to experiment the system of *allaitement artificiel*, and the direction of this will be given to Professor Parrot.

A Case of Early Pregnancy.—Mr. May reports (*Lancet*, vol. i., 1880, p. 583) the case of a girl of 13, who had menstruated regularly for about a year, who gave birth to a healthy male infant after a remarkably easy labor.

A Medical Novelist.—Dr. T. C. Minor, late health officer of Cincinnati, is the author of a popular novel—"Her Ladyship"—depicting Southern life since the war.

Dr. A. M. Maclean reports (*Physician and Surgeon*, June, 1880) a case of recovery after sixty grains of morphia were ingested and retained one hour and a half. The case was, no doubt, morphia-poisoning, but the evidence as to quantity is not satisfactory.

The Cinchona Cure for Intemperance.—Dr. Charles W. Earle says that the cinchona treatment has made more drunkards during the past year than any one liquor-saloon.

The four medical schools of Louisville, Ky., have all advanced their fees to seventy-five dollars, and contemplate some other reforms, provided they do not interfere with the safety of the city.

The best way to soften and clean a sponge is to put a teaspoonful of liquor sodæ chlorinatæ into half a tumblerful of water and wash well.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JUNE 13 TO JUNE 26, 1880.

The following promotions and appointments are published:

Lieutenant-Colonel W. S. King.—To be Surgeon, with the rank of Colonel.

Major John E. Summers.—To be Surgeon, with the rank of Lieutenant-Colonel.

Assistant-Surgeons Wm. E. Waters, Edwin Bentley, George A. Otis, and George P. Jaquett.—To be Surgeons, with the rank of Major.

Rudolph G. Ebert, of Oregon; Robert J. Gibson, of Connecticut; Robert B. Benham, of Pennsylvania; Wm. C. Gorgas, of Alabama; Norton Strong, of Michigan; and Arthur W. Taylor, of New York.—To be Assistant-Surgeons.

Goddard, C. E., Major and Surgeon.—Granted leave of absence for four months. S. O. 128, A. G. O., June 11, 1880.

Cronkhite, H. M., Captain and Assistant-Surgeon.—Granted leave of absence for two months. S. O. 134, A. G. O., June 18, 1880.

O'Reilly, R. M., Captain and Assistant-Surgeon.—Granted leave of absence for one month on Surgeon's certificate of disability, with permission to leave the Department. S. O. 73, Department of the South, June 18, 1880.

De Loffre, A. O., Captain and Assistant-Surgeon.—Relieved from duty in Department of the South, and, upon arrival in Department of the Missouri, to report by letter to the Commanding General of that Department for duty. S. O. 137, A. G. O., June 22, 1880.

Paulding, H. O., Captain and Assistant-Surgeon.—Ordered before the Army Medical Board in session in New York City for examination for promotion, and, on its completion, to return to proper station. S. O. 132, A. G. O., June 16, 1880.

Adair, G. W., Captain and Assistant-Surgeon.—Ordered before the Army Medical Board in session in New York City for examination for promotion, and, on its completion, to return to proper station. S. O. 132, c. s., A. G. O.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JULY 17, 1880.

ORIGINAL COMMUNICATIONS.

SUCCESSFUL AMPUTATION AT THE HIP-JOINT FOR SARCOMA OF THE THIGH.

Read before the Philadelphia Academy of Surgery, October 6, 1879,

BY S. D. GROSS, M.D.,
Professor of Surgery in the Jefferson Medical College.

THIS case was that of a clergyman, 47 years of age, a resident of Texas, who consulted me on the 8th of September last, on account of a diseased condition of the right thigh. He first noticed in 1867 a little tumor about the size of a nutmeg on the inner part of the limb. The tumor gradually increased in size, and when removed in 1871 it weighed one pound and a quarter and was pronounced by the operator to be of a fatty nature. The wound soon healed, and the gentleman returned to his accustomed occupation as a preacher. A new growth, however, before long appeared in the line of the cicatrix, and in the latter part of the same year another operation became necessary. Nothing further was done in the way of surgical interference until April, 1878, when another growth of considerable size was removed, intermixed with a large quantity of clotted blood, and having, like the preceding ones, the appearance of a mass of fat. A fourth operation was performed in the latter part of November of the same year. During the present year four more excisions have been performed, —one in the early part of February, the second on the 29th of March, the third on the 18th of June, and the last on the 5th of August. It will thus be perceived that there were altogether eight operations performed. During the last twelve months the recurrence of disease was rapid, although the wound always healed very kindly. Much coagulated blood was present in the more recent growths, and, what is remarkable, the more solid portions of them had always the appearance of ordinary fatty tumors. Another singular feature of these growths was the entire absence of pain until a very recent period. Of late there was a good deal of aching in the limb, especially after travelling in a railway-car, but the local suffering was never severe. When the patient arrived in this city the thigh was much enlarged and ulcerated at several points; there was a good deal of thin, sanguinolent discharge, and the limb was so stiff as to render it impossible to extend it.

The general health was good, but there was with a small and frequent pulse great emaciation, and anodynes were required to procure sleep and rest. The appetite was also considerably impaired. As there was no constitutional involvement, so far as could be determined by a careful exploration of the chest and abdomen, nor any enlargement of the lymphatic glands of the groin, it was deemed best to afford the patient a chance for his life by removal of the limb at the hip-joint. After a thorough rest of twelve days, during which the patient was fed upon milk-punch, beef-tea, and other appropriate food, the operation was accordingly performed on the 20th of September, in the presence of Professor Acland, of Oxford, England, and of the pupils of the Jefferson Medical College, Drs. Brinton, Levis, and S. W. Gross kindly assisting.

The circulation in the limb, enveloped in Esmarch's bandage, so as to press out the blood, was controlled by the abdominal tourniquet originally employed in this operation by Professor Joseph Pancoast in 1860 in a case of amputation at the hip-joint at the Pennsylvania Hospital. The operation as performed by me on the 20th ultimo was, as some of you who were present on the occasion are aware, by cutaneous flaps taken from the inner and outer sides of the limb, the latter being by far the larger, as the disease had encroached less in that direction than in the other. As little muscular substance was left as possible. Only three arteries, in addition to the femoral, required to be ligated. After waiting fully one hour and a quarter, when all oozing of blood had ceased, the wound was loosely closed with four ordinary sutures and a long needle, the latter being inserted in such a manner as to approximate the deep portions of the flaps. A few narrow strips of adhesive plaster were applied to the upper part of the wound, the lower angle of which was left largely open to facilitate drainage. With a similar object in view, the most dependent portion of the outer flap was pierced by a free incision, and the opening thus made traversed by a piece of tape. Two hours after the patient had been placed in bed, a slight hemorrhage occurred from a muscular branch of the upper and inner portion of the wound, requiring the removal of a few sutures and the long pin, the latter of which was not again inserted.

Hardly an ounce of blood was lost in the operation, which was well borne by the patient. The bladder had been well emptied previously, and forty drops of laudanum had been administered an hour before the operation. The patient vomited once from the effects of the ether shortly after the operation was over. As soon as the stomach was able to bear it, milk-punch was given in small quantities, repeated every ten minutes, and kept up during the night along with beef-essence. Black drop was also given to promote sleep, which soon became sound and refreshing. With the exception of the slight bleeding previously referred to, no untoward symptoms occurred after the operation. For the first thirty-six hours there was a free discharge of serosity, followed at the end of this time by tolerably free suppuration, which has continued up to the present time, sixteen days since the amputation. The patient has suffered no pain in the stump, and only a few times was there any spasm. He has taken ten grains of quinine daily since the operation. The bowels move daily of their own accord, and his spirits have all along been excellent, encouraged as he has been by the conviction that he is going to recover. One of the main objects during the treatment has been the administration at short intervals of nutritious food and drink. Beef-tea and milk-punch are the articles that have been mainly relied upon, assisted since his appetite has returned by beefsteak. The quantity of whisky daily consumed has been, until within the last few days, an average of about twelve ounces.

October 14.—This morning, twenty-four days after the operation, the ligature on the femoral artery was found lying loose in the wound, no attempt having been made at any time to remove it lest hemorrhage should be provoked.

November 3.—The wound is now nearly healed. The man's appetite is good; he sleeps well, and is in excellent spirits. The pulse, however, is still too frequent, and the system refuses to accumulate fat.

After the removal of the limb a careful dissection of the thigh disclosed the existence of three separate and distinct tumors, each nearly of the volume of an ordinary fist, of a whitish appearance, and of a firm, dense consistence. The sectional surface exhibited a number of bloody points indicative of the presence of vessels. The tumors were non-encapsuled, and had evidently had their origin in the inter-muscular connective tissue, as the muscles and thigh-bone were perfectly sound. A microscopic examination showed that the morbid growths are spindle-celled sarcomata, or what Sir James Paget has described under the name of recurrent fibromas.

December 28.—The patient late in November was sent to the sea-side at Atlantic City for change of air and scene. He returned at the end of eight days much improved in every respect, and then spent three weeks very advantageously at Allentown. He is now in Maryland in the enjoyment of good health and spirits, and expects in a short time to return to his home in Texas. The stump is well shaped and free from pain, but there is still in the direction of the acetabulum a slight discharge of thick yellow matter.

June 24, 1880.—I saw my patient a fortnight ago, plump, fat, and in excellent health, having gained upwards of twenty pounds in weight. He has for several months past preached every Sunday, and on several occasions twice on the same day, without any unusual fatigue. The stump is well shaped and thoroughly cicatrized, except at a little point over the acetabulum, where there is still, at times, a very slight oozing. There is no appearance whatever of a recurrence of disease.

CASES OF DISLOCATION OF THE HEAD OF THE FEMUR.

BY JOHN H. PACKARD, M.D.,

Surgeon to the Episcopal Hospital.

Read before the Philadelphia Academy of Surgery, October 6, 1879.

DOUBLE DISLOCATION OF THE HIP.

A GERMAN, æt. 35, had a double dislocation, the head of one femur (the right) being luxated into the thyroid foramen, while the other was thrown on the dorsum ilii. The accident occurred by the falling of a house in the gale of October 23, 1878, the man being caught in the doorway as he was escaping. When brought to the Episcopal Hospital, immediately afterwards, the nature of the lesion of the right hip was determined by the following signs:

The foot was somewhat everted, the leg semiflexed, and the head of the femur could be plainly felt near the median line, decidedly below the pubis. The amount of shortening was not noted, the other hip being also dislocated. Reduction was effected by Dr. Harvey, the resident surgeon, before Dr. Packard's visit; simple flexion and adduction, the knee being at the same time pushed downward, were sufficient.

Singularly enough, the lesion on the left side, which was clearly indicated by the usual signs, was not corrected until Dr. Packard arrived, when it yielded to the ordinary manipulation.

The case did perfectly well, the man being able to walk about in three or four days. He was, however, retained in the hospital for about six weeks, on account of a compound fracture of the right arm, and was then discharged cured.

SUPPOSED SCIATIC DISLOCATION OF THE FEMUR.

Dr. Packard also reported a case which had recently occurred to him in private practice, the diagnosis of which was not perfectly clear.

A boy, æt. 15 years, was playing on an embankment, when he fell about eight feet, sustaining, among other injuries, a lesion of the left hip. Dr. Packard saw him the next day, with Dr. Rickards, and found the foot everted, the limb shortened somewhat over an inch; a good deal of tenderness in the vicinity of the hip-joint. The fact *that the boy was able to lift the knee*, although slowly and with difficulty, led Dr. Packard to express the opinion that the lesion was a luxation, and not a fracture, the presumption on the ground of his age being, of course, also in favor of this view.

Ether was given, and the ordinary manipulations of "Reid's method" carried out, when the head of the bone went into the socket with an audible snap *during abduction.* The shortening and eversion at once disappeared, and although the tenderness, especially in front of the joint, continued for some days, the limb rapidly recovered its usefulness.

Dr. Packard expressed the opinion that this was a case of luxation into the sciatic notch, with rupture, perhaps, of the outer branch of the λ ligament, possibly of both branches. He did not know how otherwise to account for the symptoms presented.

RAPID BREATHING AS A PAIN-OBTUNDER IN MINOR SURGERY, OBSTETRICS, THE GENERAL PRACTICE OF MEDICINE, AND OF DENTISTRY.

BY W. G. A. BONWILL, D.D.S.,
Philadelphia, Pa.

Read before the Philadelphia County Medical Society, May 12, 1880.

WHAT led to the discovery of this effect of rapid breathing was in an operation upon myself in 1855, while inhaling chloroform. I was conscious of touch and not pain. I applied it to dentistry in obtunding sensitive dentine, and finally, in 1875, applied it, by increasing the inhalations to one hundred a minute, to the extraction of teeth, and, soon after, to minor surgery, etc. I can in this way render patients insensible to acute pain from any operation where the time consumed is not over twenty to thirty seconds. While the special senses are in partial action, the sense of pain is obtunded, and, in many cases, completely annulled, consciousness and general sensibility being preserved. To accomplish this each patient must be instructed how to act and what to expect. Simple as it may seem, there is a proper and consistent plan to enable you to reach full success.

Before the patient begins to inhale he is informed of *the fact* that, while he will be unconscious of pain, he will know *full* or partially well every touch upon the person; that the *inhalations must* be rigorously kept up during the *whole operation* without for an instant stopping; that the more energetically and steadily he breathes, the more perfect will be the effect; and that if he cease breathing during the operation the success will not be so complete.

It is very difficult for a person to respire more than one hundred times to the minute, on account of the exhaustion produced. *For the next minute following the completion of the operation the subject will not breathe more than once or twice.* Very few have force enough left to raise hand or foot. The voluntary muscles have nearly all been subjugated and overcome by the undue effort at forced inhalation of one hundred over twenty,—the normal standard. It will be more fully understood, further on in my argument, why I force patients, and am constantly speaking to them to go on.

I further claim that for the past four years, so satisfactory has been the result of this system in the extracting of teeth and deadening extremely sensitive dentine, that there is no longer any necessity for chloroform, ether, or nitrous oxide in the *dental* office, for such purposes.

The anæsthetics, when used in major operations, where time is needed for the operation, can be made more effective by a lesser quantity when given in conjunction with "rapid breathing." Drs. Garretson and Hewson, who have thus tried it, tell me it takes one-half to three-fourths less; and the after-effects are far less nauseating and unpleasant.

As an agent in labor where an anæsthetic is indicated, it is claimed by one who has employed it (Dr. Hewson) in nearly every case for three years, that he has used "rapid breathing" solely and to the exclusion of chloroform and ether.

If in breathing the quantity of carbonic acid gas set free is in exact relation to the amount of oxygen taken into the blood, what effect *must be* manifested where one hundred respirations in one minute are made while the heart is propelling the blood only a very little faster through the lungs, and *more feebly*,—say ninety pulsations at most,—when to be in proportion it should be four hundred to one hundred respirations to sustain life any length of time?

You cannot deny the fact that a definite amount of oxygen can be absorbed, and is absorbed, as fast as it is carried into the lungs, even if there be one hundred respirations to the minute while the pulsations of the heart are only ninety. Nature has *made it* possible to breathe so rapidly to meet any emergency, and we can well see its beautiful application in the normal action of both the heart and the lungs while one is violently running.

You are already aware how small a quantity of carbonic acid in excess in the air will seriously affect life. Even two to three per cent. will in a short time prove fatal. In ordinary respirations of twenty to the minute the average of carbonic acid exhaled is 4.35.

From experiments long ago made by Vierordt (see Carpenter, p. 524) you will see the relative percentage of carbonic acid exhaled from a given number of respirations. When he was breathing six times per minute, 5.5 per cent. of the exhaled air was carbonic acid; twelve times, 4.2 per cent.; twenty-four times, 3.3 per cent.; forty-eight times, 3.0 per cent.; ninety-six times, 2.6 per cent.

Let us deduct the minimum amount—2.6 per cent. of carbonic acid when breathing ninety-six per minute—from the average, at twenty per minute, or the normal standard, which is recorded in Carpenter (p. 524) as 4.35 per minute, and we have retained in the circulation nearly two per cent. of carbonic acid; that, at the average, would have passed off through the lungs without any obstruction, and life equalized; but not having been thrown off as fast as it should have been, it must of necessity be left to prey upon the brain and nerve-centres; and as two to three per cent., we are told, will so poison the blood, life is imperilled, and that speedily.

I think we are now prepared to show clearly the causes which effect the phenomena in "rapid breathing."

The first thing enlisted is the *diversion of the will-force* in the act of forced respiration at a moment when the heart and lungs have been in normal reciprocal action (twenty respirations to eighty pulsations), which act could not be made and carried up to one hundred respirations per minute without such concentrated effort that ordinary pain could make no impression upon the brain while this abstraction is kept up.

Second.—There is a specific effect resulting from enforced respiration of one hundred to the minute, due to the *excess of carbonic acid gas set free from the tissues*, generated by this enforced normal act of throwing into the lungs *five times* the normal amount of oxygen in one minute.

Third.—Hyperæmia is the last in this chain of effects, which is due to the excessive amount of air passing into the lungs, preventing but little more than the normal quantity of blood from passing from the heart into the arterial circulation, but damming it up in the brain.

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PROFESSOR VIRCHOW has been elected by an overwhelming majority to represent Berlin in the German Parliament.

CASE OF DEATH OCCURRING DURING THE ADMINISTRATION OF BROMIDE OF ETHYL.

BY JOHN B. ROBERTS, M.D.,

Lecturer on Anatomy and on Operative Surgery in the Philadelphia School of Anatomy.

TO obtain a proper appreciation of the merits of any method of operating or of treatment it is necessary to report dispassionately all results: hence, at the request of Dr. R. J. Levis, I hasten to give the history of a patient who died, day before yesterday, during anæsthesia produced by ethyl bromide. The boy was eighteen years old, and was admitted to the Jefferson Medical College Hospital on April 14, 1880, with stone in the bladder, which had given rise, secondarily, to prolapse of the rectum. His health was exceedingly poor, as evinced by feeble pulse and other symptoms of general debility. The operation was accordingly delayed week after week, in the endeavor to obtain a better condition, and he was ordered a combination of iron, quinine, and strychnia as a tonic, and was given extra diet. Urinary examination, it is said, showed no albumen.

His health improved somewhat, and, as hot weather was liable to depress him, it was determined, after due consideration, that an attempt at operation was justifiable. On May 26, 1880, after taking fifteen grains of quinine and a dose of whisky, he was prepared for lithotomy. Even then his feeble circulation and nervous agitation were subjects of remark, but the consultation had already taken account of his debility, and decided that operative treatment was proper. Two fluidrachms of ethyl bromide were administered by the resident surgeon in the ordinary way, and, as there was considerable struggling, another drachm was added a little afterwards. At a later period a fourth drachm was poured upon the towel. During the earlier stages of the administration I had my finger constantly upon the pulse, but, as it became necessary for me to hold the staff, I requested a bystander, well known as an administrator of anæsthetics, to watch the patient during the progress of the operation.

Just after the cutaneous incision had been made by Dr. Levis, the gentleman mentioned called the resident's attention to the imperfect respiration. The towel was removed from the face at once, and the cheeks slapped to induce inspiration. *The lips at this time were pinkish, and no marked cyanosis was noticed.* As only one or two feeble inspiratory efforts could be observed, the patient was inverted, nitrite of amyl given by inhalation, artificial respiration instituted, and the galvanic battery applied to the neck and epigastrium. The tongue was drawn forward to give free access of air to the larynx. All efforts, though continued for a long period, were unavailing, and for a considerable time before these procedures were stopped it was evident that life was extinct.

The whole time of anæsthesia, unfortunately, was not taken, nor does it seem possible to give accurate notes of the phenomena immediately preceding the cessation of respiration. The history I have given has been obtained from Dr. Levis, the resident physician, and my own observation during the time of anæsthesia.

The autopsy was made about two hours after death by the coroner's physician, Dr. J. G. Lee, who found the following conditions:

Commencing rigor mortis. In left perineal region an incision two inches long, penetrating skin and superficial fascia. Tissues of scalp congested. Membranes of brain congested, ventricles containing a small amount of clear serum; brain-substance normal; membranes of medulla oblongata congested; substance of medulla anæmic. No odor of ethyl bromide perceptible. On opening body, some slight odor of ethyl bromide was noticeable. The apex of upper lobe of left lung was bound to thoracic walls anteriorly and posteriorly by old [circumscribed] pleuritic adhesions. Upper lobe was partially consolidated, the lung-tissue containing a number of cavities, with caseous and purulent deposits. Upper and lower lobes of right lung bound to thoracic walls anteriorly and posteriorly by old pleuritic adhesions. Lung-tissue consolidated and filled with cavities of various sizes. Trachea and bronchi contained a small amount of pus, otherwise normal. Right side of heart dilated, auricle and ventricle containing post-mortem clots. Concentric hypertrophy of left ventricle, which was contracted, and contained a very small post-mortem clot. Left kidney enlarged and diseased; right kidney enlarged; liver normal; intestines normal. Concentric hypertrophy of the bladder, which contained at its neck two encysted calculi.

Such were the gross appearances of the organs. The microscopic examination was made by Dr. Longstreth, the pathologist of the hospital, and is as follows. The delay in publishing the case after writing the first part of this article is occasioned by the time occupied in obtaining this careful statement of the microscopical appearances:

The examination of the kidneys showed that the inflammation of the pelvis of the organ was extending to the kidney itself. This condition was visible as whitish streaks running in the course of the straight tubes of the medullary pyramids, and also within the cortex itself. The microscope confirmed the naked-eye appearance. The inflammatory matter did not show any tendency to break down into purulent material; it was rather of the nature of an infiltration. It is probable that in a short time cheesy blocks would have been formed in the kidney as the results of this process.

The morbid process in the lung was a catarrhal pneumonia; no tubercular deposits were to be seen.

The heart-fibres exhibited atrophic changes such as are so frequently present in advanced lung-disease, but there was no fatty degeneration.*

ON CALOMEL AS A LAXATIVE AND LOCAL ANTIPHLOGISTIC.

BY E. T. BLACKWELL, M.D.

WHEN there is *acute* constipation, and we have not to struggle against the force of habit, calomel fulfils the indications exceedingly well, being easy of administration, quick yet gentle in its operation, while carrying away the excremental débris choking up the emunctories. Its action in quickening and restoring secretion from all the glandular structures implicated in digestion is peculiar, and unequalled by any other medicine. In the constipation of infants its effects are admirable. The loaf-sugar and molasses directed by some† as excipients are objectionable from their highly fermentable quality, and the sugar of milk may therefore be usefully substituted.

℞ Hydrargyri chlor. mite,
Sacchari lactis, āā ℈ss.

M. et ft. chart. no. x. Of these, one may be given every two hours till a proper effect is produced. By their means I have been able permanently to relieve many infants in whom the more usual means had utterly failed.

In the beginning of the year 1870, C. S., aged 20 months, and weighing nineteen pounds; pale, anæmic, hectical, with meteoric bowels and intensely acid stomach; troubled with constant vomiting and most obstinate constipation, caused by an exclusive diet of crackers and milk and a rigid in-door life; and attended by a torpid state of the liver and intestinal glands, was placed in my charge. So great was the debility from this perverse regimen, and the violence inflicted on the system through its influence, that life itself was imminently endangered. The acidity having been neutralized by bismuth and solution of chlorinated soda, and its reaccumulation guarded against by providing food less liable to fermentation, the constipation was easily overcome by calomel, and, a suitable regimen having been instituted, the health was speedily restored and the patient enabled to take the air, not only with impunity, but with the utmost benefit.

In the constipation of adults originating in cessation of secretion from pyretic or inflammatory processes I habitually use this remedy with very gratifying effects. It is essential to success that nothing be exhibited that may interfere with its operation, and that it be persevered in until the bowels are fairly opened. The morning is the most appropriate time, as the bowels may be relieved during the day, leaving the night for rest or for the administration of other medicines. When the biliary organs are choked with bile the calomel may be combined with podophyllin, five grains of the former and half a grain of the latter making a most effectual combination for a robust adult person.

While I do not suppose that a drug, acting never so slightly upon the glandular system by absorption, can be wholly without influence upon the general economy, any effect upon my patients beyond that which is salutary has been so moderate as to escape observation, except in a very few instances, when there was an impression upon the gums of an unimportant and transient character.

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* This is an exceedingly interesting and frank relation of the death from bromide of ethyl, and the thanks of the profession are due to Dr. Levis and his assistants for the zeal with which they prosecuted the study of what bade fair at one time to be a very valuable addition to our materia medica. The editor of the journal has taken the liberty of italicizing one line of the report, because it seems to show that the death was from syncope and not from failure of respiration.

† Dewees, Physical and Medical Treatment of Children, art. "Jaundice," p. 292.

We shall fail to exhaust the merits of calomel as a curative agent except we call in its aid in those ailments whose prominent developments are upon the surface of the body. Following the teachings of Dewees, I have constantly used it, in form of ointment, in the various eczemas of infants, especially in those diffuse forms affecting the face, neck, and ears, finding it very speedily to cure them when acute, and to be a most useful addition to the constitutional means essential in the chronic. The ointment of this author, while admirable in some respects, may often be replaced with advantage by a compound containing half its amount of the mercurial with unguentum petrolei.

℞ Hydrargyri chlor. mite, ʒj;
Ung. petrolei, ℥j.—M.

This has the strength of Pereira's ung. hydr. chlor.,* in which lard is the adjuvant.

Perhaps no single affection has caused so much misery to nursing women, or so vexatiously taxed the ingenuity of medical men, as the sore nipples incident to lactation; and I think we may cordially cast a veil over the disasters following the incautious use of calomel in the past, in view of its good services when regulated by enlightened experience, and especially in respect to its healing virtues in this agonizing condition.

℞ Hydrargyri chlor. mite,
Glycerinæ, āā ℥ss.—M.

Immediately after nursing, the nipple having been properly cleansed, stir the mixture and apply with a camel's-hair pencil, covering the part with some impermeable material. The application should be removed before suckling, and reapplied immediately after. The troublesome disorder soon gives way, to the immense relief of the sufferer and the satisfaction of the attendant.

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Formulæ for Ozæna.—1. Iodoform, 5 grains; ether, 1 drachm; vaseline, 1 ounce. Apply with a camel's-hair brush, and snuff some well up the nostril. 2. Chloral, 1 part; water, 15 or 20 parts.

ON THE DIFFERENCE IN THE EFFECTS PRODUCED BY NICOTINE WHEN INJECTED INTO AN EFFERENT FROM THOSE PRODUCED BY THE INTRODUCTION OF THE POISON INTO AN AFFERENT BLOOD-VESSEL.

BY B. F. LAUTENBACH, M.D.

UNDER efferent blood-vessels I include the veins of the portal circulation with the arteries.

The drug employed was bought of Messrs. Gehe & Co., Dresden. The experiments were made during the summer and autumn of 1877.

When one-half drop of the poison was injected into a vein of the general circulation of an ordinary-sized rabbit, death followed within three minutes. When, however, I injected three-fourths of a drop into the femoral artery of an animal of the same species, there resulted, not death, but a greatly increased frequency of the pulse, loss of tactile sensibility, sonorous respirations, and prominence of the nictitating membranes of the eyes. The animals recovered in less than two hours.

Similar results were obtained where cats were experimented on instead of rabbits.

In several experiments convulsions were produced by injecting one-half drop of the poison into the carotid arteries of cats. These animals, much to my surprise, also recovered.

The results following the injection of nicotine into the femoral artery are precisely those which Professor Schiff and myself saw following the injection of the same alkaloid into the radicals of the vena porta. Then we explained them by supposing that the poisonous properties of the nicotine were destroyed by the liver.

Since compelling the drug to pass through any set of capillaries seems to prevent its being poisonous, we can no longer make use of this explanation. Another explanation I will not advance, as it would be but guess-work at the best.

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Eczemaform Eruption due to Atropia.—Dr. Julius Donath (*Wiener Med. Wochens.*, No. 12, 1880) cites a case where the introduction of a few drops of a one-per-cent. solution of sulphate of atropia into the eye was invariably followed by severe "eczema," and pseudo-erysipelatous swelling and redness of the face and neck. The patient was a woman of forty-five, of good constitution.

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* Materia Medica and Therapeutics, vol. i. p. 802.

NOTES OF HOSPITAL PRACTICE

PENNSYLVANIA HOSPITAL.

SERVICE OF D. HAYES AGNEW, M.D., LL.D.

Reported by Charles Baum, M.D.

UNION OF TENDONS—SHOULDER-JOINT AMPUTATIONS—RIGHT-SIDED HERNIAS.

D. M. McI., admitted March 17, 1880, about one hour after the accident. While removing sawdust from beneath a rapidly-revolving circular saw, the saw-teeth came in contact with the dorsal surface of his right hand, dividing all the tissues and almost completely severing the metacarpal bones, except that of the thumb, just one and a half inches from the wrist-joint.

The entire wound was lacerated, and gaped almost one inch. The distal ends of the tendons of the extensor communis digitorum were lying at the bottom of the wound, much lacerated. The proximal ends were retracted to such an extent as not to be visible. There was a groove almost one-eighth of an inch broad, transversely, in the metacarpal bones.

The ends of the severed tendons were immediately approximated by means of fine carbolized catgut. Each retracted tendon was brought down by passing a dissecting forceps along the sheath to the extent of three-quarters of an inch and seizing the lacerated end. The tendency to retract—over which the patient seemed to have but little control—was so great that it was necessary to secure the end with a tenaculum while the sutures were being passed. A suture was passed first through the centre of the tendon, and then through its sheath upon each side. Immediately after the sutures were fastened the patient was able to extend his fingers almost as well as before the accident. The procedure was not a very painful one, he stated. After removing bone- and wood-dust, the edges of the wound were loosely approximated with the same suture, dressed with carbolized oil, and the hand, with the fingers slightly flexed, was placed upon a palmar splint.

The wound was dressed thirty-six hours afterwards, at which time there was no puffiness or inflammation apparent. Upon the sixth, seventh, eighth, and ninth days granules of bone-dust escaped, with a small amount of purulent discharge. At the expiration of two weeks, upon being allowed to try, the patient was able to extend his fingers slightly. At no time was there any discharge from the sheaths of the tendons. The lacerated wound upon the surface healed kindly by granulations. He was discharged just five weeks after admission, with power to extend his fingers, but not completely, as there still remained a slight amount of false anchylosis about the articulation of his fingers.

Upon the 21st instant I had the satisfaction of seeing his hand, and found the power of extension strong and complete. He could pick up a pin with ease, his fingers having become as supple as ever. The motion of abduction of the thumb is not complete, being restricted by some contraction of the cicatrix upon the dorsal aspect of the hand. He has long ago resumed work, and experiences no restraint in the muscular action of his fingers.

In shoulder-joint amputations, in order to control hemorrhage and to dispense with the necessity of an assistant's fingers to follow the knife, Dr. Agnew introduces an acupressure pin high up under the axillary artery, which is compressed with a few figure-of-eight turns of a ligature. Thus the limb is removed with ease, and without hemorrhage. After the vessels are secured the pin is withdrawn and the wound closed.

A lad of ten years of age, who was the subject of an oblique inguinal hernia upon the right side, was presented to the class. The hernia made its appearance for the first time a few hours before, after lifting heavy weights. Dr. Agnew gave an anatomical reason, and one which he had for a long time taught, for the more frequent occurrence of hernia upon the right side. It is a well-known fact that upon opening the abdominal cavity the intestines can be easily turned out upon the right side, but not so upon the left side. This is due to the attachment of the mesentery, which allows the largest play of motion upon the right side. During every motion of the body, and especially in severe exertion, the intestines are driven downwards with more or less force, and go more to the right side than to the left, on account of this very extent of motion allowed by the mesentery.

Philadelphia, June 22, 1880.

TRANSLATIONS.

Early Resection of the Entire Diaphysis of the Tibia in Certain Cases of Acute Diffuse Osteo-Myelo-Periostitis.—A. Faucon, in a paper read before the Académie Royale de Médecine de Belge (*Cbl. f. Chir.*, No. 22, 1880), includes under this designation the disease described by Lücke as "primary infectious inflammation of the medulla and periosteum." After alluding to the labors of various writers on this subject, Faucon gives a case in which separation in the epiphyseal line, with destruction of the epiphyseal cartilages, took place. The patient was a child of thirteen in whom severe septicæmic symptoms necessitated the resection of a piece of the shaft of the tibia twenty-three centimetres in length. A cure, with reproduction of the tibia, took place. There was some shortening, with anchylosis at the ankle and knee. To elucidate the various points in this case use is made of various cases by other writers, which are compared with it, and the author reaches the following conclusions:

1. Early resection of the diaphysis of the tibia cannot be practised as a general method of treatment in all cases of osteomyelo-periostitis diffusa acuta.
2. The procedure is to be preferred in the earlier stages of the disease, when acute septicæmic attacks immediately threaten life.
3. It is indicated in the more advanced stages of the formation of a sequestrum, when the chronic putrid infection can be overcome by the operation.
4. The clinical results of bone-regeneration sustain those gained by experimental means.

Physiological and Therapeutic Effects of Nitrite of Amyl.—Dr. Dugan, in his thesis on this subject, an abstract of which is found in the *Bull. Gén. de Thérap.* for May, concludes as follows:

1. When an animal respires the vapor of nitrite of amyl the arterial pressure is immediately observed to be decreased, while at the same time the movements of the heart are accelerated, the respiration becomes irregular, and the animal executes general depressive movements.
2. These symptoms are due to the introduction of the drug into the blood and its contact with the anatomical elements.
3. The fall of arterial pressure is not subordinate to the concomitant cardiac troubles, but depends upon vascular changes.
4. The influence of nitrite of amyl upon the vessels should be considered as an *active vaso-dilative* one, and not as *paralyzing*, since it permits the dilated vessels to contract vigorously under the direct or reflex excitation of the vaso-constrictive nerves.
5. We consider that the diastolic arrest of the heart of the frog which is often observed to occur is the result of excitation of the terminal apparatus of the pneumogastric nerves. In other words, this arrest is not due to central influence. It is observed when the two pneumogastrics are cut.
6. That acceleration of the heart observed in mammals and man shows various relations with the beginning and with the phases of decline of the arterial pressure.
7. It may be observed even after section of the pneumogastrics and when all the central accelerative nervous paths are suppressed.
8. It results, doubtless, from the peripheral action of nitrite of amyl on the intracardiac nervous apparatus.
9. The diastolic arrest of the heart is obtained in mammals by toxic doses.
10. The cardiac troubles which are developed under the influence of prolonged inhalation of nitrite of amyl do not cease after the inhalation; they last some days, and show themselves by irregularities and palpitations, with intermittences.
11. Nitrite of amyl has a true action on the striated muscles. It enfeebles the excitability of the gastrocnemius of the frog when inhaled. It causes the excitability of the muscle to disappear entirely when this is exposed to its vapors.
12. Applied directly to the muscle, nitrite of amyl destroys excitability in less than a minute. This results entirely from the local action of the drug, which is irritant and caustic, and not from any particular toxic qualities.

Addison's Disease brought about by Tuberculization of the Supra-Renal Capsules.—Dr. Maurice Letulle reports (*La France Méd.*, 1880, No. 40) the case of a man of 42, who had suffered some time with obscure pains in the lumbar region, followed by growing spinal deformity. About the same time the patient began to observe that his skin was changing color. The hands became darker in places, while decolorized patches appeared in the intervals, particularly upon the fingers. The patient's hair, which had been of a light chestnut color, together with his eyebrows and beard, became decidedly darker. He lost strength rapidly. On examination, a month later, the face, trunk, and members were found to present a dull brown tint. The integument generally presented this uniform tint, with the exception of the scrotum, where were two patches of vitiligo, and the hands and feet, where the same white patches were found. The buccal mucous membrane was found to be discolored in places. The patient suffered severe pain in the right loin, where an abscess soon appeared. The lungs were solidified at their summits. During the succeeding weeks this discoloration of the skin became more and more marked, until the man looked like a negro. The patient finally died, when, at the autopsy, the supra-renal capsules were found considerably enlarged, while preserving their general outline; they were bosselated, very hard, yellowish in color, and invaded by a large number of tubercular masses for the most part cheesy. Some points of calcareous degeneration were found in the right capsule. The kidneys were enlarged, congested, and showed yellow, tubercular granulations. The peri-lumbar lymphatic ganglia were all voluminous. Degeneration and abscesses of the vertebral column were noted. The spleen was enlarged, and showed some tubercular deposit; the liver was small. Recent tubercular infiltration of the lungs was noted. There was no pigmentation in the mucous membranes save that of the mouth. Dr. Letulle remarks on the interesting character of this case as one of secondary Addison's disease following osseous tuberculosis of the spine. He thinks the invasion of the supra-renal capsules dependent upon continued tuberculous irritation in the vicinity.

ECHINOCOCCUS AND SPONTANEOUS FRACTURE OF THE THIGH.—Kauzon and Virchow (*Cbl. f. Chir.*, 1880, p. 351; from *Virchow's Archiv*) give the case of a laborer who in his fourteenth year suffered a fracture of the femur. At the end of some months he was entirely cured. Twenty-one years later he was seized with sharp pain in the femur, and a few months later, while going about quietly, he suffered spontaneous fracture of the thigh at the point of former injury. The fracture remaining ununited, amputation was decided upon. An exploratory incision having been made, echinococcus cysts were found in and about the bone. Exarticulation was then practised; the patient, however, died seven hours after the operation. The autopsy showed echinococci in the liver. The femur, which was examined by Virchow, was filled throughout the whole diaphysis with echinococcus cysts; the cortical substance was thinned and in places dissolved; the trochanters, head, and condyles were free. The walls of the cysts were quite thick; scolices could be found only in a few instances.

PHYSIOLOGICAL AND THERAPEUTIC QUALITIES OF THE POMEGRANATE ALKALOIDS.—At a recent meeting of the Académie de Médecine (*La France Méd.*, 1880, No. 41) Dr. Dujardin Beaumetz read a paper on this subject, in which he draws the following conclusions:

1. The alkaloids of pomegranate, and in particular the sulphates of pelletiérine and isopelletiérine, possess real and active physiological characteristics.

2. These alkaloids give rise to paralysis of the motor nerves, while leaving muscular contractility intact. They do not affect sensibility, and appear to strike suddenly the motor nerves in their muscular terminations; they are, in fact, curarizing agents.

3. The sulphates of pelletiérine and isopelletiérine are active tæniacides, and in the dose of thirty centigrammes in a solution containing fifty centigrammes of tannin they bring away the tænia entire with its head in the vast majority of cases.

4. New experiments should be made in the use of these alkaloids in diseases, as tetanus and hydrophobia, where curara has been employed, and also where a congestive condition of the bottom of the eye is desired, as Ménière's disease.

ON CATCHING COLD.—Dr. O. Lassar (*Virchow's Archiv*, 79ten Bd., p. 168) says that the severest excitation of the skin which is endured under ordinary conditions is that which comes from sudden and extreme changes of the surrounding temperature. Simple and few as are the explanations needed for the processes which occur as a result of excessively lowered temperature on the organs directly affected by the cold, well worked out as are our theoretical views on the heat-forming economy of the organism under physiological and pathological circumstances, yet the exact knowledge which we possess regarding the pathological effect of sudden changes of temperature is scanty and unsatisfactory.

The question whether the general organism is injuriously affected when from a condition of warmth it is suddenly and for a brief period exposed to the abstraction of heat, has never yet been answered. In order to ascertain the facts in this matter, Lassar undertook a series of experiments upon animals. Rabbits were shaved, and, after having been under observation several days, were suddenly taken from an atmosphere of 34° to 35° C. and plunged into ice-cold water, remaining immersed for one to three minutes. The animal, carefully dried and brought into a warm atmosphere, shivered and shook for hours. If now it was brought into an atmosphere of 20° C. it soon recovered its usual condition. Frequently severe diarrhœa supervened. Almost invariably albuminuria appeared after a day or two, accompanied by hyaline cylinders in the urine and a slight increase of temperature.

This albuminuria usually disappeared in a day or two, but sometimes lasted weeks, and even months, terminating fatally. When recovery took place, new exposures were followed again by albuminuria.

Microscopic examination of organs which to the naked eye offered no signs of disease showed signs of interstitial inflammation, chiefly in the kidneys and liver, but also in the lungs, cardiac tissue, and nerve-sheaths. The skin remained unaffected; the muscular tissue was occasionally slightly colored, but showed no increase of the interstities nor nuclei in the sarcolemma. The joints remained in all cases intact.

The parenchyma of the affected organs showed no changes, but the vessels, particularly in the lungs and liver, were often enormously dilated, the arteries filled with thrombotic masses, and a plentiful extravasation of white blood-corpuscles into the neighborhood of the veins and the interstitial tissue generally.

For purposes of control, dogs were experimented upon in the same way, and with the same result. Frogs, too, were treated in a similar manner, and, although in general the effect of changes of temperature was not so striking, yet in several cases inflammation of the liver was observed.

In order to observe the influence upon the fœtal system, pregnant rabbits were operated upon, and it was ascertained that the fœtus also appeared to be influenced by the changes of temperature to which the mother had been exposed. The liver in these cases seemed most strikingly affected, resembling closely the syphilitic liver of new-born infants.

According to Lassar, the only plausible theory of the pathology of catching cold is that of Rosenthal, namely, that the blood suddenly cooled in the periphery of the body and thrown into the interior organs acts there as an irritant, exciting inflammation. And this hypothesis, though seemingly finding little ground to support it, is at least not contradicted by the experiments above cited.

SUSCEPTIBILITY OF NEW-BORN INFANTS TO THE CONTAGION OF VARIOLA.—Dr. Lothar Meyer (*Virchow's Archiv*, 79ten Bd., p. 43), after examining the various theories and experiments in relation to the subject, including some made by himself, arrives at the following conclusions: 1. The contagion of variola penetrates the placental circulation. 2. The fœtus possesses a much less fully-developed susceptibility for the reception of vaccinia than the new-born infant; the latter, again, less than the older child. 3. The susceptibility to vaccine is not so perfectly developed in the new-born infant as in the older child. That this is most imperfect in the fœtus we are justified in supposing, although no proofs can be brought forward to sustain the opinion. 4. New-born children, in spite of their imperfectly-developed susceptibility to vaccine, react almost invariably to the latter when they have been thoroughly inoculated with good virus. 5. The vaccinia of new-born children which is unaccompanied by areola and fever is to be regarded as imperfect. The result of inoculation in new-born infants is, however, never complete. 6. The question as to the penetrability of the lymphatic circulation by fixed vaccine contagium is as yet an open one.

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CHIAN TURPENTINE IN CANCER.—The Chian turpentine treatment for cancer is now having a thorough trial in the cancer wards of the Middlesex Hospital in London.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JULY 17, 1880.

EDITORIAL.

CONSULTATIONS.

THERE is probably no city in the civilized world in which medical consultations are proportionately so infrequent as in Philadelphia. There is certainly a wide-spread feeling against calling them among the profession. This feeling is based not so much upon a question as to their value to patients as upon a fear that they will injure the physician who calls the consultant. Very many doctors evidently have the feeling that asking that Dr. Secundus be called in is equivalent to saying that Dr. Secundus knows more or is more skilful than they. It is true that a consultation may be asked for in such a way as to give rise to this impression; but this is the result of the awkwardness of the physician. A little tact on his part will leave behind the conversation with the friends of the sick the feeling that he is a very careful doctor, one who wants in every way to do the best possible thing for his patient, and will thereby strengthen rather than loosen his hold upon the family.

Talking, a few weeks since, upon this point with a neighboring practitioner, he said, "I never call any consultations. Some weeks ago Mr. —— was ill, did not improve, and finally asked that I would call in Dr. Jones. I did so. The patient got well, and the family was transferred to the list of Dr. Jones." The family here was lost, not, as was thought, because the doctor was willing for a consultation, but because he was unwilling. If he had been quicker, and had suggested the consultation before the patient demanded it, Dr. ——, having been called in at his request, would not have attended the family afterwards. For here come in the ethics of the matter. If Dr. Secundus is called in by the family in spite of the attending physician, he, to our thinking, is not justified in refusing afterwards to attend the family. On the other hand, if he is introduced or called in by the family doctor, he is bound by every tie of equity, and also of self-interest, to refuse to attend that family subsequently, even if pressed so to do.

The words that have just been written apply to a much wider district than our city limits. Some few weeks since, whilst upon a professional visit some distance from the city, we heard a doctor of the neighborhood roundly denounced for allowing a patient to die. On attempting a defence, we were met with the statement, "What we blame Dr. —— for is not the death of the patient, but that he did not give him the best possible chance by calling a doctor from the city. Money was no object to the family, and why didn't he tell them how ill the patient was, and suggest bringing some one from Philadelphia? then if death had come everybody would have been satisfied that all that could be done had been done."

The *raison d'être* of the consultation is not only the physical benefit of the patient, but the satisfaction of the family.

CORRESPONDENCE.

LONDON LETTER.

THE subject of digestion is one that is now attracting a good deal of attention, and certainly not more than it deserves. The articles now put on the market to aid the natural processes are innumerable. As the directions given with them are not always as accurate as they might be, it may be well to consider digestion broadly, after which the importance of minutiæ will become all the more easy to comprehend. Our food is stored for us, in the first place, by vegetable life, as starch, sugar to some extent, fat, and albuminoids. Now, it is obvious, in the first place, that if these stored materials were readily soluble a steady rain might bring animal life to a close, or disagreeably near to it. Perhaps there may exist soluble stores, but we know little of them, unless encapsuled, as in the grape or orange, and their food-value is somewhat low. Consequently, we see that the ordinary staple food of man is stored in insoluble forms. The act of digestion, then, is an act of "solution." By the action of the saliva-ferment starch is largely converted into sugar, and thus, being soluble, can be taken up into the blood. But before solution can take place we must first have "disintegration." The savage slowly ground his seeds in his mouth, the saliva becoming thoroughly mixed with the food in the tardy act. As time wore on, the disintegration was largely executed by some form of machinery, and the coarse flour so produced was mixed with water and baked. In this process the starch was so modified as to be more readily digestible by the saliva, and so a distinct gain was achieved. But this was all attained quite empirically, and without any reference to what science ultimately had to say as to the *rationale* of it all. The solution of the starch in bread being thus accomplished, or largely accomplished, by the action of the saliva, the albuminoid matters are left free for the action of the gastric solvents. Here again is a question of solution. Just as by the addition of a molecule of water insoluble starch is converted into soluble sugar, so in the stomach the insoluble albuminoids known as "proteids" are converted into the soluble "peptones." This is gastric digestion. It is quite clear, again, that solution must be preceded by disintegration. The food is broken up by the teeth in the act of mastication, and as the starch is converted into sugar, which is soluble, so the albuminoid matter is left free for the solvent gastric juice to act upon it. Now, there are two points to be considered in reference to gastric digestion. The first is the question of disintegration. If the albuminoid matters be not readily disintegrated, then dyspepsia follows. We do not possess teeth in our stomachs, like the lobster tribe, consequently the action of the teeth is supplemented by the muscular movements of the stomach, which roll the mass of food over and over until it falls to pieces. If the food be not masticated thoroughly it is readily comprehensible that the movements of the stomach must be more energetic and protracted in order to produce disintegration, whether of bread or of flesh. The minute fibrillæ of flesh are first separated from one another, and then solution of them in the gastric juice follows. Now, it is clear that ready disintegration is an indispensable quality of food where the digestive act produces much pain from gastric movement. Biscuits, which fall readily to pieces, are more easily digested than bread; loosely-fibred fish, than close-fibred beef; milk mixed with some farinaceous matter to prevent the formation of a firm curd, than plain milk.

Ready disintegration removes, then, what may fitly be termed the "mechanical" obstruction to digestion; and by this selection of food only can we aid disintegration. When the food is thus broken up, the gastric fluid with its ferments can act upon the albuminoids. Now, if the gastric juice be imperfect in quantity or impaired in power, then the solution of albuminoids and the conversion of insoluble proteids into soluble peptones will be interfered with. For both these factors of the digestive act we have artificial aids to natural digestion, viz., maltine to act upon starch, and the pepsin of animals to aid the gastric juice. But in order to wield these agents properly with the maximum of advantage we must possess some acquaintance with the digestion of food. The ferments of the saliva become inert, or, in other words, are killed by the gastric juice, and so are operative only before the contents of the stomach become acid. And yet on large bottles of maltine—the agent we use to supplement the action of the saliva—we find directions to give a child a teaspoonful immediately after food. Now, this is simple nonsense, and the maltine so given is useless, except in so far as it is nutritive itself. It can exercise no influence upon the starch in an acid medium; consequently it is quite clear that it should be added to milk, or milk-gruel, or a milk-pudding, before the act of taking the food into the mouth. So used, it will aid most materially in the conversion of starch into sugar, but as used, according to directions on the bottles, maltine is a food rather than a solvent ferment. The physiology of digestion must be broadly understood before these artificially-prepared digestive agents can be properly utilized.

The actual time required for the transformation of insoluble starch into soluble sugar by this act of hydration under the influence of a ferment is very small, so that if the maltine were added to the milk-gruel or porridge a minute or two before it is placed before the child it would be sufficient. As it is not at all unpalatable, being like molasses in taste and appearance, the child will not object to such addition. It is also desirable in many cases of feeble digestion in adults to pursue the same line, good results, especially after any malady which may have specially affected and impaired the alimentary processes, being so attained.

The difficulties to be got over in the digestion of starch are not great, and have been already largely overcome. Those to be encountered in the digestion of albuminoids are being successfully struggled with, and are being gradually conquered. But it is essential, for the proper wielding of our artificial aids, that we clearly comprehend what factor or factors of indigestion we have to contend with. An accurate diagnosis must precede any potentially possible precision in our therapeutic aim. If the gastric disturbance be reflex, as most dyspepsias with a clean tongue in women are, then the source of the disturbance must be sought for, and, when found, dealt with rationally before any improvement in the digestive act can be truly established. Of course it is not contended that a correct dietary and a strict adherence to readily-digestible food are not of use in the relief of reflex dyspepsia; but really these measures are only auxiliary to the true remedial measures. In genuine primary dyspepsia, when distinguished from the reflex forms it becomes necessary to differentiate one form from another. In order to do this with some approach to accuracy, we must try to distinguish whether the indigestion is due to deficiency in quantity or quality of the gastric juice, or whether the difficulty lies in imperfect disintegration, or in both combined. Where the digestive act produced much actual pain the late Dr. Leared held that there was actual deficiency in the gastric juice; where there was much flatulence and discomfort he thought the dyspepsia due to defective power in the muscular walls of the stomach. Now, without accepting this as final, these divisions of Leared certainly enable us to comprehend all the better the two factors requisite for the digestion of albuminoids, viz., "disintegration" and "solution." Where there are reasons for holding that the muscular power of the stomach is defective, then the food should be of such quality and so prepared before it enters the stomach as to present a minimum of difficulty in its disintegration. To achieve such end the albuminoid material should be of such a character that it readily falls to pieces. Thus, in very desperate cases it may be necessary to feed the patient on meat-juice or raw meat pounded; but such are extreme cases. Usually it is sufficient to select food which is readily masticated, as boiled white-fish, for instance, or milk with some form of baked starch in it so as to prevent the formation of a firm curd in the stomach. The latter would not require mastication, but the first would. And this brings us to one important factor in the production of indigestion, from the disintegration aspect of the subject. If the teeth be defective or decayed, it may simply be impossible for the sufferer to masticate properly the food. Here the art of the dentist is indispensable to proper digestion. At other times the imperfect mastication is due to the habit of eating too rapidly. The man who has not sufficient time, or does not allow himself sufficient time, over his meals is on the highway to indigestion. However excellent originally his digestive powers are, sooner or later the stomach will resent and rebel against such systematic and persistent outrage. Perfectly competent to undertake its own proper duties and functions, it cannot with impunity be handicapped by having, by its muscular exertions, to supplement imperfect mastication in the digestion of albuminoids. Consequently, in the treatment of each case of indigestion the practitioner must make an accurate diagnosis, and then proceed to meet his difficulty rationally. To prescribe pepsin wine when the difficulty is one of disintegration is not a scheme likely to be crowned with success. On the other hand, when the difficulty in the digestive act is that of imperfect solution, then the addition of some artificial pepsin to that provided by the stomach is rational enough. A really good pepsin preparation is of great value when used in the right place; but the present "happy-go-lucky" way of treating indigestion is not suggestive of its proper use. So long as our diagnosis is inaccurate, whether from want of knowledge or from lack of care, so long will our measures for the relief of dyspepsia be insufficient and commonly unsuccessful. Unless the practitioner see clearly whether the difficulty to be overcome is one of disintegration or of solution, he cannot select his measures with any approach to precision. He tries one plan, and then another, until he stumbles at last on some plan or measure which affords relief to the patient. More frequently than is pleasant for either doctor or patient, the latter tries a variety of doctors before any satisfactory conclusion is attained. Perhaps in some instances no satisfactory treatment is ever attained; but as our knowledge, physiological and pathological, increases, these latter cases ought to become rarer and rarer. On the other hand, however, the increasing failure in our digestive organs is a grim fact to be encountered. The demands we make upon ourselves in the modern battle for existence—yes, and for success, too—are telling with terrible effect upon the viscera and their functional activity. The grand digestive powers of our ancestors are dwindling down hand in hand with the wide-spread decay of our teeth. Without attempting any special explanation of the last phenomenon, dental caries is but a part of the general deficiency in our digestive processes. The spread of knowledge can scarcely keep pace with the assimilative failure all along the line. The skill of the physiological chemist is taxed to the utmost to supplement the waning digestive powers, alike in the child and in the adult. To borrow the digestive juices of animals, or, rather, to appropriate them for our needs, is all very well, but the slightest reflection will demonstrate that, after all, such measures can only be palliative. Granting that in certain particular cases they are curative as regards the individual, they can claim no such position as regards the race and future generations. No more can a regulated dietary be regarded as curative in that wider sense. What we must do in order to restore the digestive powers of the race to their pristine activity, or, indeed, to the position that they occupied within a comparatively recent period, is not yet very apparent, nor am I proposing to grapple with that aspect of the question now. What is being attempted at present is the practical aspect of the relief or cure of indigestion according to the indications of each particular case as regards the measures to be employed. In those complex cases where disintegration and solution are both implicated and imperfect, it is obvious that a properly-selected dietary must be the first thing to be essayed; then comes the question of aiding solution by artificial pepsin. As to the special preparation to be used in each case, nothing can be said here, further than that the choice would be determined by the features of the case. Where there are pain, flatulence, and discomfort, probably an acidulated pepsin preparation is indicated; but in those cases where there are acid eructations, with heart-burn,—where, in fact, the offending matters are the fatty acids produced in the digestive act,—probably a pancreatic preparation, with an alkali, rather seems to be suggested. It is not generally known, however, that a stronger acid is often most effective in destroying the feeble but offensive fatty acids of indigestion. Thus, many cases of heart-burn are most effectually relieved by a few drops of a mineral acid, as hydrochloric or phosphoric, or even by a vegetable acid, as citric, for instance, or by the lactic acid of sour milk.

As to the alkaline digestion of our food by the pancreatic secretion, and the effects of the bile acids and their salts upon fats, they cannot be considered at present. All that may be added is a few words on the importance of studying the tongue in indigestion. When perfectly clean, a reflex cause may ordinarily be looked for. When the tongue is foul and laden with dead epithelium and débris, then the condition of the alimentary canal must be carefully studied. Purgatives may be indicated, but if there be a yellow shade on the fur presenting the stain of taurocholic acid, then those purgatives must be combined with hepatic stimulants, as by a mercurial and colocynth pill at bedtime and sulphate of soda and Rochelle salt in a warm infusion of gentian first thing next morning, warm bath by temperature, and carminatives. When the epithelium is defective, then milk and alkalies, either lime or magnesia, according to the state of the bowels, must be the sole food, for a time at least, and the medicine *par excellence* is bismuth. But the main fact to be kept steadily in view is that all digestion is a process of solution, and that for successful solution of our food efficient disintegration is indispensable.

J. Milner Fothergill.

OINTMENT FOR CHRONIC ECZEMA.—

℞ Hydrarg. chlor. mit., gr. xv ad xxv;
Acidi tannici, ℈ij;
Glycerol. amyli, ℥i.—M.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

At a conversational meeting held at the hall of the College of Physicians, Philadelphia, May 26, 1880, Dr. John H. Packard, Vice-President of the Society, in the chair, Dr. James Collins read the report of a "Case with Hydrophobic Symptoms," followed by the notes of the autopsy by Dr. C. K. Mills, and Dr. Carl Seiler presented some fine microscopic preparations (large sections) of the spinal cord and brain from the case.

DISCUSSION UPON ANALGESIA BY RAPID BREATHING.

Dr. Addinell Hewson stated that he wished to refer to two points, one made by Dr. Benjamin Lee and the other by Dr. Bonwill in their papers of the previous meeting. Dr. Lee had stated that the term analgesia used by Dr. Hewson in his paper before the International Congress, 1876, was not an innovation, as could be determined by a reference to Dunglison's dictionary. This Dr. Hewson was not only ready to admit, but showed by the edition of 1846 that both terms—anæsthesia and analgesia—were there used as strictly synonymous,—this was before the use of ether and chloroform,—whereas in Hedericus's Greek-Latin Lexicon (edition by Samuel Patrick) for 1727 the two terms were made distinct,—the one, analgesia, to mean *insensibility to pain* only, and the other, anæsthesia, to mean general insensibility with loss of consciousness,—the one corresponding to the effects of rapid breathing, the other to those of ether, chloroform, and other recognized anæsthetic agents.

The error of Dr. Bonwill was in intimating that Dr. Hewson laughed at the idea when first presented to him of using this method. What Dr. Hewson objected to then, as now, was Dr. Bonwill's theory or explanation, namely, that of increased oxidation or oxygenation of the blood. Dr. Hewson here referred to the experiments of Bernard and Guibert, which sustain the opposite view as to the effects of rapid breathing: a hundred respirations in a minute could not be attended with as full oxygenation of the blood in the lungs as fifty or forty, or even twenty.

This analgesia from rapid breathing he constantly employed in his office for small operations, such as the removal of a finger, etc. The manner of using it is to throw a napkin over the patient's face and get him to breathe rapidly. Consciousness is not lost, and the patient will move his position or stop the rapid respiration when told to do so. Insensibility to pain temporarily exists, while ordinary tactile sensibility is continued.

He also employs this method in labor, directing the mother to breathe rapidly while he puts on the forceps without her knowledge. By this method he claimed that he could deliver the mother of both child and placenta and be out of the house within fifteen minutes from the time of entering it, except when hemorrhage or other complication exists. He did not believe that rapid respiration favored hemorrhage.

Dr. Lee said that he had no theory of the mode of action of this anæsthetic to offer.

The resolution by which this subject was brought up for discussion this evening called for a demonstration of the method on the part of those who introduced it at the last meeting.

From the nature of the case, such a demonstration before so large a body would be attended with great difficulties. As an equivalent, however, he would call upon gentlemen present who had experienced the analgesic effects of rapid respiration in their own persons to give their testimony in regard to it. He would ask Dr. Buck to recite his own experience.

Dr. F. J. Buck said that he had employed the method personally during the opening both of a very painful ischio-rectal abscess, which was so deep-seated that the attending surgeon doubted the existence of pus, and also of an axillary abscess. In each case he had experienced no pain, although he could feel the cutting.

Dr. O'Hara reported a case of tracheotomy upon a child who was breathing very rapidly, in which no pain was apparently caused by the operation.

Dr. Lee presented Dr. Kite, a graduate of the University of Pennsylvania, who had made a number of personal experiments with rapid breathing, especially as an adjuvant in the administration of ordinary anæsthetics.

Dr. Kite stated that under Dr. Bonwill's supervision he had tested the analgesic effects of rapid respiration, and declared that sticking needles through the skin gave no pain whatever. At first there is a decided sense of exhilaration during rapid breathing, just as from ether; then the senses become confused, there is blurring of sight, peculiar buzzing in the ears, and more or less vertigo. At the rate of one hundred times in the minute, breathing cannot be continued for more than a few minutes at a time.

He believed that this method might be advantageously combined with ordinary anæsthetics. Being easily affected by ether, a very small amount usually causing vomiting, he could not ordinarily employ it upon himself. But after rapidly inspiring for some time, a very moderate quantity of ether had made him completely unconscious, and when he revived he had no nausea or vomiting. He had repeated this experiment frequently; on one occasion he took ether twice on the same day, and fully confirmed the previous observation that by rapid breathing he could escape the nausea and vomiting.

He quoted Hermann's Physiology in support of the view that the residual air in the lungs becomes highly oxygenated, and does not contain its ordinary proportion of carbonic acid, instead of being deficient in oxygen. For several minutes afterwards there is lessened desire for breathing. There is a damming up of the blood in the lungs during rapid breathing, and a diminished amount of carbonic acid in the expired air.

Dr. Hewson said that he had especially studied the movements of the chest and examined the lungs, and was positive that the lower part of the thorax moves very slightly. The inspiratory movements are short when breathing at the rate of one hundred per minute; expansion of lungs is diminished to a marked degree; there is scarcely any diaphragmatic action. In reply to a question from Dr. Blackwood, he said that no danger was to be apprehended, because the patient retains consciousness, and will stop when told to do so.

Dr. W. R. D. Blackwood stated that the reason he asked the question was that he had tried it in a somewhat hysterical patient, and she kept on breathing rapidly for such a long time that he was somewhat alarmed. In a case requiring pulling of a molar he had tried the method, but the patient complained of the pain nevertheless.

Dr. Bonwill denied the statement that the insensibility to pain was caused by diminished oxygenation of the blood, but maintained the contrary view. After running rapidly, the number of the respirations and the heart's action are both increased. In the present plan the respirations are increased, but not the heart's action; the consequence is that less carbonic acid is set free, and the blood contains an excess of oxygen.

Carpenter's Physiology states that forty respirations per minute will give 4.35 per cent. of carbonic acid in the expired air, but at ninety-six per minute only 2.25 per cent., which confirms the results of his personal observation.

Dr. Hewson referred to his original paper in the Transactions of the International Congress at Philadelphia for an extended statement of his views upon this subject, which views were also supported by Bernard and Guibert.

Dr. H. Lenox Hodge regretted that no demonstration had been made before the Society, as had been promised. It has been tested in the presence of students, and he saw no reason why it should not be repeated here.

He had noticed that this method was used not so much as a substitute for other anæsthetics, but rather in cases for which no anæsthetic is ordinarily employed. One of its advocates had recommended its employment in obstetrics; but it is an obstetric aphorism that you must tell the woman that you are putting on the forceps. Why? Because she does not feel them as they pass along the yielding tissues to the side of the fœtal head.

In cases of tracheotomy the patients are unfortunately often more than half dead, and often no anæsthetic is used.

On motion, further consideration of the subject was postponed, in order that Drs. Lee and Bonwill might prepare a demonstration with cases.

Dr. Seiler presented a modification of laryngeal forceps.

Dr. Charles T. Hunter said that when Mr. Gemrig first imported the Strerks tube-forceps they were shown to him, and he had suggested their use for the extraction of bullets. He was not aware that they had ever been employed for this purpose, their original use being as laryngeal forceps.

Dr. H. Lenox Hodge regarded the suggestion of Dr. Seiler as very ingenious and a decided improvement. The principle is not new, however, as he had in his possession several old instruments constructed upon the same principle for the removal of intra-uterine polypoid growths, which had been employed by his father.

On motion, the thanks of the Society were tendered to Drs. Collins, Mills, and Seiler, and the discussion upon "Case with Hydrophobic Symptoms" was postponed until the next meeting.

F. W.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, MAY 27, 1880.

THE VICE-PRESIDENT, J. SOLIS COHEN, in the chair.

Specimens—liver, stomach, and duodenum—from a case of catarrhal jaundice—Enormous distention of the hepatic duct. Presented by Dr. FREDERICK P. HENRY.

I. P., a fisherman, of temperate habits, æt. 63, was admitted to the Episcopal Hospital on May 15, 1880. His illness began five weeks before, and its onset was so insidious that he was unaware of anything being the matter with him until a friend remarked upon the unusual yellowness of his skin. Since then he has had occasional pains in the stomach and right shoulder. On admission, the icterus was intense, and the urine, which was acid, non-albuminous, and of specific gravity 1013, responded decidedly to the test for bile-pigment. The bowels were loose, and the stools clay-colored. The tongue was heavily coated. The abdominal walls were slightly œdematous, and fluctuation could be obtained on palpation in the lumbar regions. There was no vomiting from the date of the patient's admission, and no complaint of pain, although there was some tenderness in the epigastrium. The symptoms, from the time of admission until death, which occurred on May 23, were gradually increasing weakness and stupor, with diarrhœa amounting usually to three stools daily. The treatment consisted chiefly in the use of nitrate of silver and opium pills and gallic acid.

At the autopsy more than a quart of serum was found in the peritoneal cavity. The tissues were all deeply stained with bile-pigment, and this was particularly noticeable in the intima of the arteries. The only organs in which anything abnormal was observed were the stomach, duodenum, biliary ducts, gall-bladder, and liver. The mucous membrane of the anterior wall of the stomach was greatly thickened and thrown into numerous prominent ridges, which, by their intersection, produced an irregularly-retiform arrangement. On its posterior wall, and in the line of the lesser curvature, were signs of a more acute catarrhal process, consisting of redness and punctiform hemorrhages, with thickening of the membrane. In the duodenal mucous membrane the changes resembled those of the lesser curvature of the stomach, but were more marked. Near the orifice of the ductus communis was an ecchymotic patch about half an inch long. The common duct and the gall-bladder were both slightly dilated, but the most conspicuous abnormality was to be seen in the hepatic duct, which was dilated almost to the size of the normal gall-bladder. The distention caused it to lie in contact with the gall-bladder, giving rise, on first inspection, to the supposition of a supplementary bladder. This view was dispelled on observing the extreme thinness of its walls and the different character of its contents as compared with that of the gall-bladder. The point of stricture was not determined, as a probe could be easily passed along the common duct from the duodenum into both the gall-bladder and the dilated hepatic duct, and pressure upon either caused bile to flow into the duodenum. The bile in the dilated hepatic duct was of a pale-amber color, and of low specific gravity, while that in the gall-bladder was viscid and blackish-brown in color. The liver was somewhat enlarged, owing to a great engorgement of bile identical in appearance with that in the hepatic duct. Section into different parts of the gland was followed by a copious flow of bile.

The case was one of catarrhal jaundice, in which the obstruction to the outflow of bile was so great and long-continued as to cause dilatation of both the gall-bladder and the hepatic duct, moderate in the case of the former, extreme in that of the latter, where the backward pressure was more directly exerted. The distention finally resulted in complete atony of the walls of the dilated duct.

Carcinoma of the liver. Presented by Dr. FERDINAND H. GROSS.

Mrs. Elizabeth E., widow, native of Germany, aged 60 years, was admitted into the German Hospital, March 9, 1880, and remained under the care of my colleague, Dr. J. M. Barton, until April 1, the beginning of my term of service. The early history of the case is incomplete. At the time of her admission to the hospital she complained of pain in the right hypochondriac region. On examination, a very hard tumor, about the size of an orange, could be distinctly felt at this point. According to her own statement, this had been coming on for about a year and a half. Previously she had enjoyed good health. Her appetite was usually very poor, and her bowels always remained obstinately constipated, requiring the occasional administration of strong cathartics and enemata. Otherwise, her general health at the time of her admission did not appear to be much affected. The tumor, however, soon began steadily to enlarge, and became more painful, so that manipulations about this region were resisted by the patient. Her appetite failed, and her strength rapidly declined. On the 13th of May vomiting began, which in a few days became entirely uncontrollable. Some nutritious fluids were injected into the bowels, but the patient became daily more feeble, and died on the 25th instant, retaining consciousness until the last.

The post-mortem examination revealed the hard tumor in the liver here presented. The external examination showed the hardened mass to be continuous with the liver, and to extend about four inches below the edge of the ribs and to the umbilicus. It had become firmly adherent to the adjacent portions of the abdominal walls, to the pyloric end of the stomach, and to the transverse colon. The growth is about the size of a large fist, spherical in shape, and everywhere firmly attached. No symptoms of disease of the head or chest were ever present, and these cavities were therefore not examined.

I am indebted to my resident, Dr. H. S. Bissey, for some brief notes on the clinical history of the case.

Report of the Committee on Morbid Growths.—"A section of the new formation in the liver is found to consist of a delicate stroma of fibrous tissue arranged to form alveoli, in which are seen large epithelial cells. The tumor is an encephaloid carcinoma.

"June 24, 1880."

Carcinoma of liver. Presented by Dr. C. SEILER for Dr. COLLINS.

Thomas McLaughlin, æt. 67 years, Irish, twenty-eight years in America, was well until December, 1879, when he began to be weak, and suffered from diarrhœa; liver suddenly enlarged, and continued to do so until death. Lungs and kidneys normal. Liver filled nearly two-thirds of the abdominal cavity; would weigh about fifteen to eighteen pounds.

A microscopical examination of the growths in the liver showed them to be carcinomatous.

Tumor of mammary gland. Presented by Dr. C. SEILER for Dr. COLLINS.

E. T. B., æt. 51. Tumor of right mamma. Growth had been noticed about one year; within a month had grown painful; removed.

Report of the Committee on Morbid Growths.—"A section of the tumor removed with the mammary gland shows it to be a scirrhous carcinoma; the histological structure consists of epithelial cells placed in alveolar spaces; the latter have their walls formed by fibrous tissue.

"June 24, 1880."

REVIEWS AND BOOK NOTICES.

NEURALGIA: ITS NATURE AND CURATIVE TREATMENT. By THOS. STRETCH DOWSE, M.D. New York, G. P. Putnam's Sons, 1880.

At the close of the perusal of the two hundred pages of this book we felt under profound obligations to the author for his self-restraint. He says, in the last paragraph, "I might have written more extensively upon the subject." Certainly it has been a narrow escape for his, let us hope, numerous readers. How shall we characterize what has been written? It is both bad and good, or good and bad. As for any logical or scientific faculty, the author's mind seems a hopeless desert; but as a practical physician, bent upon the cure of his patients by hook or by crook, he excites our admiration. Do the rich fields of nervous literature anywhere yield anything more rank than the following definition of neuralgia: "The term of neuralgia is here employed to denote a diseased condition of the blood or tissues of the body and a condition which causes a more or less definite and localized painful affection of the nerves"? Construe this accurately, it means that neuralgia is any diseased condition, and it is also certain diseased conditions. Construe it as loosely as possible, and it means that any organic disease of the nervous system producing pain is a neuralgia. And yet our author tells us later, in italics, that "all neuralgias are curable." Also he speaks of his cases of neuralgia due to tumor of the brain, etc., etc.,—cases as curable as death.

The value of the work, and that on account of which we recommend its purchase by physicians who are well read in the science of the subject, but want a book to make suggestions of treatment in their struggles with neuralgia, consists in the fulness and the suggestiveness, and we may say the originality, of its practical details in the cure of the various forms of disease. Here the book is exceptionally good.

The English of the book is such as to make us happy that it was written in the island where conceit leads learned men to mistake old Saxon idioms for Americanisms, and cockneyism leads ignorant men to invert their *h*'s. Of the many sentences which might be cited we have only space for one (p. 17): "In the sufferer from neuralgia we have unquestionable evidence of the absence of that recuperative power which normally results from the oxidizing agency of combustion, and is so intimately connected with the molecular interchanges of tissue, and which really means want of proper nutritious assimilation." Oh for an English cook-book, to teach us how to serve up, steaming hot or delightfully cold, this assimilation which is so nutritious! Again, is it the *absence* which normally results and is so intimately connected, or is it the recuperative power which really means the want of this proper nutritious assimilation? Oh, dear Sir Joseph Fayrer, least insular of Englishmen, most genial and polished of a hospitable race, Dr. Dowse may have done thee honor in his dedication, but, for his sake and thy own sake, and for the sake of our common mother-tongue, please, *do* send him to a grammar-school!

CARLSBAD. By J. KRAUS, M.D. London, Trübner & Co.

This little volume contains a full account of Carlsbad, written by the consulting physician of the place, and therefore reliable, except as over-colored. We commend it to invalid travellers and their doctors.

HEALTH AND HEALTHY HOMES: A GUIDE TO DOMESTIC HYGIENE. By GEORGE WILSON, M.A., M.D., Medical Officer of Health, etc. With Notes and Additions by J. G. RICHARDSON, M.D., Professor of Hygiene in the University of Pennsylvania, etc. Philadelphia, Presley Blakiston, 1880. Pp. 314.

This handsome little volume forms, as it were, a connecting link between the excellent series of primers upon sanitary subjects issued by the same publisher and the more systematic manuals of hygiene. It might therefore very properly be termed a second-class book of sanitary science, and will be found useful not only by the public, but also by many of our own profession. Being written in an easy, graceful, and attractive style, it forms an agreeable recreation after the graver but not more important studies which claim the attention of a general practitioner of medicine, and furnishes a vast amount of interesting instruction in regard to Causes of Disease, Food and Diet, Exercise and Training, The Home and its Surroundings, etc., etc. These subjects are all treated of by Professor Wilson, of course, as affected by the admirable sanitary laws enforced in the British empire; and we cordially unite in the hope expressed by the American editor, that the perusal of this work will help to strengthen public (and professional) opinion in favor of legal enactments for preserving the public health.

GLEANINGS FROM EXCHANGES.

SURGICAL TREATMENT OF EPISTAXIS.—Dr. Edward Hamilton, in a communication to the *British Medical Journal* (vol. i., 1880, p. 691), denounces the ordinary Bellocq's canula as a frequently useless and sometimes pernicious instrument. He himself takes a strip of linen material three feet long, with a width in proportion to the fineness of the texture, perhaps an inch on the average. This may be soaked in some domestic astringent at hand,—tea, alum-water, saturnine solutions; oil may be used, but it should be sparingly, for, although it greatly facilitates the introduction of the material, yet it interferes with the imbibition of moisture, and thus prevents the subsequent expansion of the plug which is useful in checking the escape of blood by its compressing effect. The best of all fluids, if at hand, is a saturated solution of gallic acid in glycerin, which may be kept for the purpose. This has the advantage of combining astringency and styptic quality with lubrication. This strip of linen should be regarded as consisting of three parts, each intended for its own special position in the nostril. The end of the first portion should be grasped in the blades of a dressing-forceps, and conveyed along the floor of the nostril to the posterior termination of that cavity; the remainder, about one foot, should be rapidly "paid" by the finger and thumb into the cavity of the nostril. The solid mass thus formed should be forced along the floor of the nose, first with the little finger and then with the dressing-forceps or a pencil, until it is found to occupy the posterior nostril, and distinctly felt in it by *the finger, hooked round the soft palate*. This is far the most important part of the entire proceeding, being, as it were, the basis of operations. The second portion should now be paid into the nostril in the same way, and pressed by the finger and forceps into its position,—the roof of the nose. The third and last portion should be pushed into the nostril so as to occupy a position in front of and below the other two, and, being caught within the edge of the alar cartilage, will usually retain its position without trouble. Dr. Hamilton thinks it desirable that the material should not be cut, but retained as one continuous piece for facility of subsequent removal; but too much care cannot be taken in disposing of the first portion. The nostril being thus perfectly and thoroughly packed, every portion of the lining membrane is steadily and firmly compressed, and the escape of blood is rendered physically impossible. In the course of about forty-eight hours the plug begins to loosen, the end falling from the nostril. Directions should be given to the nurse or attendant on no account to pull it, but simply to cut the projecting part on a level with the nostril according as it drops until the entire plug comes away. There is little fear of the plug remaining too long, as, when the natural secretion is restored, it becomes quickly loosened and unpacked, and falls away through the anterior nostril.

ACUTE RHEUMATISM, WITH MULTIPLE EMBOLISMS.—At a recent meeting of the Clinical Society (*Lancet*, vol. i., 1880, p. 683) Dr. Southey read notes of a case of acute rheumatism, with multiple embolisms. The patient, a woman of 56, came to the hospital on the eighth day of an attack of acute rheumatism, the seventh attack from which she had suffered. On admission, there were general hyperæsthesia, swelling and tenderness in right parotid region, painful swelling of left hand and knee. In addition to an erythematous blush, the skin presented ecchymotic and purpuric spots over trunk and limbs. Temperature, 102.4°; pulse, 120; respirations, 36. The præcordial dulness was increased, and there was a systolic apex murmur, fulness and tenderness of abdomen, with evidence of splenic enlargement. She was given fifteen grains of salicylate of sodium every four hours, which was discontinued after the fourth dose, owing to the supervention of delirium. On the eighth day the highest temperature was 100°; lowest, 99°; pulse, 108; respirations, 42. She was less rational; passed urine involuntarily; the parotid swelling had increased. On the ninth day the temperature was 99.2° to 100°; pulse, 128; respirations, 52. There was drooping of the left eyelid, with less restlessness and pain. Death took place on the morning of the eleventh day, the patient becoming rather suddenly comatose twelve hours before. At the autopsy, no pus in the affected joints; patches of embolic softening in the corpora striata, left cerebral hemisphere, and left lobe of cerebellum; spinal cord normal; right parotid gland congested, not suppurating; the mandibular articulation not diseased; ecchymoses in the larynx, and œdema of the lungs. There was universal adhesion of the pericardium, a calcareous patch existing over the right auricle. The heart was large, and its cavities dilated. The most notable feature was the occurrence of numerous minute embolic areas studding the endocardium on both sides. The muscular substance was granular. Mitral orifice of large size, the valve fringed with vegetations. The liver and kidneys contained recent infarctions of variable size, and the intestines presented numerous ecchymotic spots. Dr. Southey considered the case to be one of acute rheumatism *plus* ulcerative endocarditis, with embolisms in the skin leading to purpura (he believed embolism to be generally the source of "purpura rheumatica"). He had noticed this tendency of endocardial vegetations to break down and give rise to minute multiple embolisms in old ague cases, but he had never before seen so extensive an embolic affection of the heart-muscle itself. The condition of the nerve-centres suggested that capillary plugging is one of the causes of hyperpyrexia.

FAILURE OF SALICIN AND SALICYLIC ACID IN RHEUMATISM.—At a recent meeting of the Clinical Society of London, Dr. E. Headlam Greenhow, President of the Society, communicated two papers, than which, says the *Medical Press and Circular*, it may safely be affirmed that no more valuable or enduring records are contained in the annals of the Society. These papers are entitled (1) "Ten Cases of Rheumatic Fever treated with Salicin" and (2) "Fifty Cases of Rheumatic Fever treated with Salicylate of Soda." They embody the results of a series of careful and elaborate clinical studies, and from these results Dr. Greenhow has been driven to conclude that the remedies so pertinaciously advanced as having a specific value in overcoming rheumatic fever are, *per se*, actually inoperative in the way of directly affecting the progress of the disease. That they do exert an influence on pain and temperature, easing the one and reducing the other, he is prepared to admit, but with the admission he couples the guarded assertion that beyond this benefit none other is produced, while at the same time the administration of the medicines is attended with risks to the patient as heavy and as lasting for evil as any observed when other methods of treatment are chosen in preference.

TREATMENT OF PROLAPSUS OF THE RECTUM BY HYPODERMIC INJECTION OF ERGOTIN.—At a recent meeting of the Academy of Medicine, M. Vidal, of the St. Louis Hospital, read a paper on the "Treatment of Prolapsus of the Rectum by the Hypodermic Injection of Ergotin." By this new procedure the author succeeded in curing three cases of prolapsus of the anus in adults. The solution that he used was composed of one gramme of the extract of ergot dissolved in five grammes of cherry-laurel water; the amount injected at one time was fifteen to twenty drops. None of the injections were followed by inflammation or abscess. In one case, where the prolapsus was of long standing, M. Vidal operated twenty-two times, leaving an interval of two days between each injection. After the twelfth injection the prolapsus was completely reduced.

TRANSPLANTATION OF TESTICLE FROM GROIN TO SCROTUM.—The *Lancet* (vol. i., 1880, p. 681) contains notes of a case occurring under the care of Mr. Wood, where a boy of 13, who had always worn a truss for a tumor in the right groin, which had within a few days slipped past the truss, was seized with pain in the groin, increase of size in the tumor, and sickness and constipation. On examination, a hard irreducible tumor was found at the ring, excessively painful, with no impulse on coughing. There was absence of the right testicle from the scrotum. An ice-bag applied continuously for a week's time reduced the tumor to its normal size, but it could not be returned to the abdomen. Some days later Mr. Wood exposed the testicle by a vertical incision over the external ring. The cavity of the tunica vaginalis appeared to be obliterated. There were adhesions between the testicle and the pillars of the ring, which being broken down, Mr. Wood freed the cord for an inch and a half, and by traction was able to bring down the testicle about an inch. He then everted the scrotum, stitched the testicle by catgut to the everted part, put a small drainage-tube in, sewed up the opening, and applied a pad firmly above the testicle, the whole operation being performed antiseptically. Two weeks later the patient was discharged, wearing a water-pad truss.

A NEW TREATMENT FOR GONORRHŒAL OPHTHALMIA.—Mr. Bader (*Lancet*, May 1, 1880), in the case of a patient whose eye appeared nearly lost through an acute attack of gonorrhœal ophthalmia, concluded to try the effect of an ointment made of daturin and nitric oxide of mercury, of each one-fifth of a grain, vaseline one ounce. After thoroughly washing away the discharge with tepid water, he pushed the ointment beneath the upper eyelid of the right eye (which was the worst) with a large camel's-hair pencil; this caused no pain whatever. Both eyes were then bound up with lint thickly smeared over with the ointment. The discharge was washed away every third hour, and the ointment spread on fresh lint reapplied over the eyelids. For four succeeding days Mr. Bader applied the ointment himself beneath the right upper eyelid. On the third day the patient became slightly delirious, probably from the effect of the daturin. The mercury was increased to one grain, the daturin remaining one-fifth of a grain. In three days some improvement was noticeable, and at the end of seven weeks the patient was completely cured. Four other cases also resulted favorably under this treatment.

INFLUENCE OF VARICOCELE ON THE NUTRITION OF THE TESTICLE.—Dr. J. C. Ogilvie Will, in a lecture on this subject (*Lancet*, May 15, 1880), alludes to the wide difference of opinion expressed by different authorities, and suggests the following conditions as indicating when operative interference should be resorted to after giving palliative treatment a fair and prolonged trial: 1. If the varicocele be very large or increasing. 2. If the testicle be atrophied. 3. If acute pain be complained of. 4. If the patient be disqualified from entering the public service. 5. If the stability of his mental faculties be endangered. This last condition is not a fanciful one: it is met with oftener than one would expect. Greater latitude may be allowed in the direction of operation in those cases where the thoughts of the patient are concentrated, often to the exclusion of others, upon the supposed serious nature of the malady from which he is suffering.

NORMAL LENGTH OF THE CONDYLES OF THE FEMUR.—Dr. Clarke (*British Med. Jour.*, vol. i., 1880, p. 627), in order to ascertain if any given case of knock-knee were due to elongation of the internal condyle of the femur, measured the two condyles. For the inner he took as the upper limit the spine for the introduction of the adductor magnus, and for the lower limit the margin of the articular surface at the extremity of the bone; the external condyle was measured from the prominence immediately above the popliteal groove to the articular margin. Of one hundred femora, the average length of the external condyle was 35.84 millimetres (1.4 inches), and of the internal, 43.59 millimetres (1.7 inches), showing an average difference of 7.75 millimetres (0.3 inch). In no case was the external longer than the internal condyle.

SALICYLATE OF QUININE IN RHEUMATISM.—Mr. Dearden writes to the *Lancet* of May 1, giving the following formula, which he has used with benefit for some time:

℞ Acidi salicylici, ʒi;
Quiniæ bisulphatis, gr. x;
Syrupi simplicis, ℥i;
Liq. ammoniæ, fʒi;
Aquæ, ad f℥xij.

Put the acid and quinine together into a bottle with eight or nine ounces of water, shake briskly for a few seconds, let the mixture stand a little while uncorked; then add the liquor ammoniæ, again shaking; then the syrup and the rest of the water. A few drops more of the ammonia may be needed to get a clear solution.

HERPES OF THE LARYNX.—Beregszaszy reports in the *Genœskund Cour. der Nederl.* three cases of phlyctenular inflammation of the vocal cords. Laryngoscopic examination revealed the presence of small vesicles surrounded by a red zone: these vesicles transformed into pustules and were cured in a few days without any medicine. In one case there was at the same time a herpes of the pharynx: the affection had been considered as diphtheritic in its nature, but laryngoscopic examination (the patient had hoarseness at the same time) clearly revealed the nature of the affection; on the epiglottis and especially at its free border, on the ventricular bands of the larynx, and on the ary-epiglottic folds, there were small characteristic vesicles of the nature of which there could be no doubt.

SALICYLIC ACID IN DIABETES.—Schætzke (*Berlin. Klin. Wochens.*, January) gave in one case of diabetes forty-five grains of salicylic acid thrice daily. After a day or two, intolerance supervened, and the dose was reduced to fifteen grains thrice daily, which was sufficient to remove entirely the sugar from the urine. In another case forty-five grains daily for one week and thirty grains daily for another week caused the sugar to disappear at the end of that time. In a third case, as in the two former, a curious intolerance of the drug was noticed, but thirty grains daily were taken, resulting in a speedy cure.—*Practitioner*,

Oxalate of Cerium in Cough.—In a paper on this subject by Dr. Cheeseman (*N. Y. Med. Record*, vol. i., 1880, p. 664), the following conclusions are stated to have been arrived at by a committee of the Therapeutical Society:

"1. Cerium oxalate may be given safely in doses of ten grains or more three times a day, for many days in succession.

"2. The only symptom noted from such doses is a slight dryness of the mouth for the first few days.

"3. It is probably more efficient when taken dry upon the tongue.

"4. Its effects are not fully apparent until it has been taken two or three days, and continue about the same length of time after its use is suspended.

"5. For chronic cough it is best taken on an empty stomach early in the morning and at bedtime, with other doses during the day, if required; the initial dose for an adult being five grains.

"6. It is in the majority of cases an efficient cough medicine, at least for a considerable time, and it is very valuable as an alternate with other drugs used for that purpose.

"7. It does not disturb the stomach as do opiates and most other cough remedies; but on the contrary it tends to relieve nausea and to improve digestion.

"8. The different preparations on the market are not of equal value, and when success is not obtained with one another should be substituted."

Benzoate of Sodium.—The *New York Medical Record*, in answer to a correspondent, says,—

Letzterich recommends the following for internal administration:

℞ Sod. benzoat., gr. 80 (5.0 grms.);
Aq. dest.,
Aq. menth. pip., āā ℥iss;
Syr. aurant. cort., ʒijss.

M. Sig.—One tablespoonful every hour for adults, a teaspoonful every hour for children less than two years old, and a dessertspoonful for children three to five years old.

Klebs advises the inhalation of ʒijss per day at two or three sittings, conjointly with the benz. magnes. (internally), in doses varying from ℥i to ℥ij per day.

Schüller uses ℥i to ℥ij benz. sod. per day, taken by the mouth in doses of ʒss to ʒi.

Kroczak employs inhalations of a five-per-cent. aqueous solution.

Others have used and recommended a two-per-cent. watery solution, the sittings lasting at times over an hour.

The dose administered by inhalation is ʒss at starting, with a gradual increase up to and above ℥iss daily. Two to three inhalations are practised each day, the sittings in some instances lasting two hours (counting pauses for rest).

The minimum dose appears to be about 10 grains, the maximum ℥ss and even ℥i. —Ed.

Bromidrosis cured by Oleate of Mercury.—Mr. Bull writes to the *Lancet* (May 8, 1880) that in a case of bromidrosis of the axillæ, where mineral acids, German mineral waters, and Fowler's solution internally, together with the local application of carbolic acid in glycerin, extract of belladonna, tannin dissolved in spirit of wine, tincture of iodine, and unguentum diachyli, had been employed in vain, inunctions of ten per cent. oleate of mercury used nightly after washing the armpits with alcohol caused the excessive sweating to disappear and the offensive odor with it.

Water-Pads for Splints.—Mr. Edward C. Thompson (*British Med. Jour.*, vol. i., 1880, p. 549) has devised a series of rubber bags of various sizes, intended for use as pads for the various splints in use for fractures, etc. One of his little heel-pads, of which a picture is given, filled with air or water and placed under the heel in a box-splint or any other fracture-appliance, will prevent the patient from complaining of the slightest pain or inconvenience, no matter how long it may be necessary to keep the limb in position.

Treatment of Anal Fissure.—Instead of employing forcible dilatation, Dr. Hamon (*Le Praticien*) applies to the fissure, with a camel's-hair brush, a solution consisting of one part of chloroform to two parts of alcohol. Two or three applications, at intervals of two or three days, usually suffice to effect a cure. The first application is very painful, but each subsequent one becomes less so.

Diabetes Insipidus Treated Successfully with Ergot.—Dr. William Murrell (*British Med. Jour.*, May 8, 1880) again refers to this treatment. In one case, after all else had failed, half a drachm of the liquid extract of ergot every three hours reduced the urine from twenty pints to a pint and a half, and eventuated in a cure.

Treatment of Muguet ("Thrush").—Dr. Vivier recommends the following: Distilled water, 25 grammes; alcohol, 5 grammes; corrosive sublimate, 60 centigrammes. A camel's-hair brush moistened with this solution is to be swept over the surface once, twice, or thrice daily.

Iron and Digitalis.—Mr. Livy (*Brit. Med. Jour.*, *Practitioner*, 1880, p. 291) recommends the combination of tr. ferri chlor. and digitalis with dilute phosphoric acid. The acid clears up the mixture, makes it pleasanter, and acts beneficially on the stomach when mineral acids are indicated.

MISCELLANY.

Dr. B. F. Lautenbach, who died recently, of phthisis, in this city, bade fair, had he lived, to have been one of the most famous physiologists that this country has ever produced. Although only twenty-six years of age, he had achieved a world-wide reputation as an investigator. He was almost equally fluent in French, German, and English, and could speak Italian fairly. The following comprises all of his more important papers:

1. Abstract of essay on "Hemlock and its Alkaloid." Philadelphia Medical Times, 1875.
2. Essay on "Hemlock and its Alkaloid." Proceedings of the Academy of Natural Sciences, 1876.
3. "L'Infl. de l'Irrit. d'un Nerf parcour. par un Courant constant." Archives de Physique et Hist. Nat., 1877.
4. "Difference between the Conducting and Receiving Power in Nerves." Philadelphia Medical Times, 1877.
5. "Electrical Phenomena in the Heart." Philadelphia Medical Times, 1877.
6. "On the Velocity of Nervous Action." Philadelphia Medical Times, 1877.
7. "On a New Function of the Liver." Philadelphia Medical Times, 1877.
8. "Sur les relations qui existent entre la hauteur de la contraction musculaire, l'intensité du courant irritant et la temp. latent." Archives de Physique et Hist. Nat., 1877.
9. "On the Functions of the Cerebral Lobes." American Journal of the Medical Sciences, 1877.
10. "Are there Spinal Respiratory Centres?" Philadelphia Medical Times, 1878.
11. "On the Physiology of Hemiplegia." Philadelphia Medical Times, 1878.
12. "Sur une differ. physiologique entre les Ranæ temporariæ et les Ranæ esculentæ." Bull. de la Soc. d'Hist. Nat. de Genève, 1878.
13. "Gleditschin: a New Alkaloid." Philadelphia Medical Times, 1878.
14. "On a New Manner of Determining the Presence of Sensory Nerves." New Journal of Physiology, 1879.
15. "Action of Heat on Motor Nerves." New Journal of Physiology, 1879.
16. "Saponin in its Relations to Physiology." Part I.—Local Effects. Chicago Journal of Mental and Nervous Diseases, 1879.
17. "The Action of Strychnine and Brucine on the Motor Nerves." Philadelphia Medical Times, 1879.
18. "Saponin in its Relations to Physiology." Part II.—General Effects. Chicago Journal of Mental and Nervous Diseases, 1879.
19. "Absorption without Circulation." New Journal of Physiology, 1879.
20. "The Action of Heat on Sensibility." New Journal of Physiology, 1880.
21. "On the Physiology of Writing." Philadelphia Medical Times, 1880.

In Press.

"Pflüger's Electrotonus." Smithsonian Contributions.

"New Facts respecting the Action of Strychnine on the Sensory Nerves." Pflüger's Archiv.

"On a Difference between Motor and Sensory Nerves." Pflüger's Archiv.

With Professor Schiff.

"Curare on Sensibility." Pflüger's Archiv.

Preservation of Corpses in the Paris Morgue by Freezing.—A sub-committee appointed by the Prefecture of Paris have handed in a report upon this subject, which contains the following statements:

Setting out from the principle that there are grounds for rejecting all methods of preservation in which chemical substances are placed in contact with the corpse, M. Brouardel finds that putrefaction of bodies can be arrested by placing them in a medium of dry cold air. To attain this end it is desirable to allow the bodies at first to remain in a chamber at 15° or 20° under zero (C.), then to transfer them to a final place, where the temperature will be maintained under 0°.

At the autopsy, indeed, it is preferable that the cadaver should be thawed, but in some special cases (where wounds are in question, for example) the continuance of congelation may be very valuable in preserving the connections of viscera and allowing the course of any wounding instrument whatever to be followed. Of late, thanks to the prolonged lowness of temperature, M. Brouardel has been able to make several very conclusive experiments at the Morgue upon bodies which he successively congealed and thawed, the result being that the congelation did not induce in the tissues any modification capable of interfering with an examination; the blood did not rupture the vessels which contained it, and the viscera underwent no important change. Besides, freezing is a highly-prized process in histological laboratories. Nevertheless, the muscles and blood present some alterations; the discs of Bowman become dissociated, and the pale blood-globules lose their hæmoglobin, which dissolves in the blood.

If the congelation is maintained for several months, the bodies lose a tenth of their weight and the muscles have no longer the property of putrefying, as the experiments of MM. Tellier and Brouardel show. The sub-committee has adopted, for preserving by cold the bodies at the Morgue, the process of MM. Giffard and Berger. In this process the material used is atmospheric air. "Air taken outside is compressed to two or three atmospheres; during the compression the air loses a quantity of heat, which is carried away by water backing the walls of the condenser; then this air escapes from the apparatus, and in recovering its volume it undergoes a refrigeration, which at the point of exit may be lower than 50°." The Giffard apparatus will cost sixty thousand francs.—*Medical Press and Circular*.

Art from a Medical Stand-Point.—An amusing art-criticism in a recent number of the *Medical Press and Circular* contains the following judgment upon a gallery of ideal beauties contributed by famous artists to the London *Graphic:*

"We have stated that bodily as well as mental feebleness is somewhat characteristic of the *Graphic* gallery, and the statement is, we think, borne out by the prevailing wanness of complexion. Anæmia is noticeable in several faces, and emaciation in more than one. A certain sickliness accompanies the mental depression to which we have adverted. The pink on Sir Frederick Leighton's canvas is not that of health,—on the ear it creates a suspicion of eczema; and those are not the hues of robustness that glow on the cheeks of the maidens whom Messrs. Tissot, Dicksee, and Hopkins have called into being. The really painful case of bodily degeneration, however, is found within Mr. Philip Morris's silvern frame. Here we have a white-veiled girl-bride, almost corpse-like, summoning up disagreeable pathological associations. A fragile, scrofulous creature, she turns on us a wistful gaze unillumined by any ray of hope, and seems to be taking her last farewell of all around her. Her bleared eyes, pinched nose, pallid complexion, and swollen lips indicate, it might be said, only too surely that tubercular disease has already set its seal upon her."

How to Distinguish Natural and Artificial Butter.—Dr. G. C. Wittstein, in an Austrian pharmaceutical journal, explains how to distinguish cream butter from "ox butter" by means of the microscope. Place a small piece of the butter upon an object-glass, spread it out by means of a cover-glass, and observe it under a power of three hundred to four hundred. If it is pure butter the whole field is filled with extremely fine globules, which are entirely destitute of any approach to crystalline form. If the butter is artificial, or a mixture of both, the field presents numerous angular or acicular particles between the globules. These crystalline particles are derived, no doubt, from the stearine which forms part of the beef-tallow in artificial butter. Lard does not show any such crystalline particles.

Ovariotomy.—Dr. Lombe Atthill (*Med. Press and Circular*, May 19) says,—

"With due care and strict attention to antiseptic precautions, the operation of ovariotomy is now deprived of its terrors and has become one of the safest in surgery; and I contend that the risk is diminished infinitely by its being undertaken at a comparatively early period.

"The value of antiseptic precautions (by which I mean 'Lister's method') is now so generally admitted that I do not intend dwelling on it at any length. My own opinion is that in ovariotomy they should never be omitted."

Dr. William Kent Gilbert, who died of typhoid fever in this city on the 28th of June, was born December 28, 1829. For many years he had been actively engaged in practice, and at the time of his death was coroner of the city. He was a very eager and successful collector of old medical manuscripts and rare books.

NOTES AND QUERIES.

ERRATUM.

Owing to rapid chirography, our compositor made a mistake in the report of the Louisville City Hospital in our number of July 3. For Professor Wm. H. Mathew, read Professor W. H. Wathen.

The Fourth Annual Meeting of the American Dermatological Association will be held at the Ocean House, Newport, on August 31, September 1 and 2.

Arthur Van Harlingen, M.D., Secretary,
129 South Fifteenth Street, Philadelphia.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JUNE 27 TO JULY 10, 1880.

Byrne, C. C., Major and Surgeon.—Assigned to duty as Post-Surgeon at Angel Island, Cal., relieving Assistant-Surgeon Hubbard. S. O. 93, Division of the Pacific and Department of California, July 1, 1880.

Hubbard, Van B., Captain and Assistant-Surgeon.—Assigned to duty as Post-Surgeon at Alcatraz Island, Cal. S. O. 93, c. s., Division of the Pacific and Department of California.

Brewer, J. W., Captain and Assistant-Surgeon.—His leave of absence on account of sickness further extended three months on Surgeon's certificate of disability. S. O. 142, A. G. O., June 28, 1880.

Bartholf, J. H., Captain and Assistant-Surgeon.—Having reported at these Headquarters, assigned to duty at Fort Cœur d'Alene, Idaho T. S. O. 103, Department of the Columbia, June 19, 1880.

Kimball, J. P., Captain and Assistant-Surgeon.—Granted leave of absence for twenty-one days. S. O. 63, Department of the Platte, July 7, 1880.

Winne, C. K., Captain and Assistant-Surgeon.—To report in person to Commanding General, Department of the East, for assignment to duty. S. O. 148, A. G. O., July 6, 1880.

De Loffre, A. A., Captain and Assistant-Surgeon.—Assigned to duty as Post-Surgeon, Camp on White River, Col. S. O. 144, Department of the Missouri, July 5, 1880.

Comegys, E. T., Captain and Assistant-Surgeon.—Relieved from duty in Department of Texas, to proceed to Cincinnati, Ohio, and report arrival there by letter to the Surgeon-General. S. O. 148, c. s., A. G. O.

Reed, W., Captain and Assistant-Surgeon.—His leave of absence extended one month. S. O. 146, A. G. O., July 6, 1880.

The following-named Assistant-Surgeons, recently appointed, will report in person to the Commanding Generals of the Departments set opposite their respective names:

R. G. Ebert, Department of the Columbia.
R. J. Gibson, Department of the Missouri.
R. B. Benham, Department of Dakota.
W. C. Gorgas, Department of Texas.
Norton Strong, Department of the Platte.
A. W. Taylor, Department of the Missouri.

S. O. 149, A. G. O., July 7, 1880.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, JULY 31, 1880.

ORIGINAL COMMUNICATIONS.

CASES WITH HYDROPHOBIC SYMPTOMS.

BY JAMES COLLINS, M.D.,
Surgeon to the German Hospital of Philadelphia,
AND
CHARLES K. MILLS, M.D.,
Neurologist to the Philadelphia Hospital.
WITH MICROSCOPICAL REPORTS
BY CARL SEILER, M.D.,
Pathologist to the Presbyterian Hospital of Philadelphia.

Read before the Philadelphia County Medical Society, May 25, 1880.

REPORT OF A CASE BY DR. COLLINS.

On the 22d of January, 1880, a powerful, muscular, active German widow, a saloon-keeper by occupation, gave me the following history of her case:

After ironing, on the 20th, she felt unusually tired, especially in the right arm and hand, in which she suffered pain enough to disturb her sleep. After resting, however, she became more comfortable on the morning of the 21st. During the afternoon of this day the pains again returned, and increased so that she sent for me somewhat reluctantly. Finding her tongue normal, pulse 84, and skin cool, I prescribed morphia, with a diaphoretic mixture, on the supposition that the case was probably one of muscular rheumatism. After taking this mixture she slept well, and seemed much better. She was not seen on the 23d. I knew of no history of specific disease.

When I called, on the morning of the 24th, she alleged that she was no better, complaining of increased pain in both arms, over the back, and in the intercostal regions. She was somewhat hysterical, and was disposed to laugh and weep alternately. I also noticed slight want of co-ordination in the movements of the right hand, with some hyperæsthesia of its surface. While conversing with her, she spoke of some difficulty in swallowing. Wishing to test this, I offered her a teaspoonful of water, pouring it into her mouth rather quickly from the spoon. To my astonishment, this brought on a terrible spasmodic paroxysm, apparently laryngeal. She became purple in the face, and violent and wild in gesticulation. She also became very much agitated and irritated, reproving me angrily for my haste, and for not giving her warning.

Learning that she had visited the drug-store of Mr. Lawson, who resided opposite to her, I called upon him and expressed the suspicion that his neighbor had hydrophobic symptoms, but said that the link of dog-bite was wanting in her history. He at once exclaimed that about six weeks before she had been bitten by a little black dog. She had interfered to save her pet poodle from this dog, when the latter snapped her in the hands and fingers. Although warned by Mr. Lawson, she scouted the idea of danger.

Making an examination, I now found on the dorsal surface of the right hand, over the metacarpal bone of the middle finger, a blue cicatrix. On the tip of this finger was also a small cicatrix. They were tender to pressure.

Finding that she was becoming irritable, excitable, apprehensive, and suspicious, I proposed that she be removed to the German Hospital for treatment. To this she consented, and was taken to the hospital, arriving about 1 P.M. I called during the afternoon, and found her violently agitated, suspicious, and dissatisfied. She was determined to go home again, and, finding objection to her wishes caused her violent mental agitation, it was deemed best to allow her to return. She arrived at home about 5.30 P.M., where she was, at first, quieter.

She was ordered pills of opium and camphor, one grain each, which she swallowed without difficulty. She became for a time quite composed. She laughed at my suggestion that the bite on her hand might have something to do with her malady, giving me to understand that she knew all about dogs, and had almost forgotten the incident. Her pulse was 94; temperature 102.4° F. She was seen during the evening by Dr. Ferdinand Gross, who confirmed the diagnosis of hydrophobia. She spent a very restless night, tossing and beating about the bed, complaining of the air caused by shaking the bed-clothes, and exhibiting exalted acuteness of hearing and great watchfulness. She had no headache; her bowels were moved, and micturition was performed without trouble.

Early Sunday morning, the 25th, I found her more calm. Her tongue was heavily coated; she was restless and easily agitated, and was dreadfully disturbed by the sight of water, or by the clinking of the spoon in the glass. She managed with effort, and after much preparation, to swallow a few spoonfuls of milk-punch. She also took an opium pill. Her pulse was 94; temperature 103°; respirations 30. Her bowels were moved again at 8 A.M., and she passed urine freely. During the morning she continued to take opium and camphor, swallowing the pills without much difficulty.

At 3.30 P.M. on the 25th I saw her again, with Dr. Charles K. Mills, who also visited her with me on several subsequent occasions. She was in bed, partially clad, talking rapidly but coherently. She said that her hands and arms felt heavy and numb, the right being worse than the left. The cicatrices, which appeared slightly purple, exhibited some tenderness. Painting with cantharidal collodion failed to blister thoroughly at these points. She complained of her "rheumatism," still ignoring the idea that the bite had anything to do with her condition. The right side of her face was flushed and a little puffy. She had frequent twitchings of the muscles of the face and mouth, the spasmodic movements being much stronger on the right side than on the left. No spasm of the limbs occurred. The patellar tendon reflex on both sides was almost wanting; it could be just elicited. She frequently shifted her position in bed, and complained of feeling very nervous. She had no headache or spinal pain. Her pulse was 94; temperature, taken in the right axilla, 104°; surface temperature, in the middle of the forehead, 102°. The temperature of the room at the time of these observations was 69° F. The frænum was examined, but without result, for the pustules called "lyssi."

An effort was made to have her take some tea, which she said she would try to drink. She was very fussy and particular about having everything just so before she began. She made her son put the cup containing the tea in the bed before her. About one-half a teaspoonful of the tea was put in a spoon, and this she attempted to swallow. Instantly her head was thrown back violently, as if she were strangling; she gave a strange shriek, and struggled and jumped entirely out of bed. She cried out that she was being smothered. An instant later she quieted down, and said she could not swallow. A few minutes after this she tried to take some milk through a glass tube, but failed, although on making this attempt the spasmodic manifestations were less marked. Ten minutes later she succeeded in taking a few spoonfuls of thick gruel. She still swallowed pills without difficulty. She complained of great thirst and dryness of the throat, and expectorated a thick, sticky, frothy saliva. She expressed a wish for plenty of air, but could not endure a draught. Injections of milk and beef-tea, which had been ordered from the beginning, were continued, and were well retained.

At 10 P.M. on the 25th she still complained of terrible restlessness. She swallowed solids and semi-solids, although with great difficulty, abhorring the sight or even the mention of liquids. Her mouth was very frequently affected with twitchings; she made clutching movements with her fingers, and complained of deadness and weakness of both hands. Both upper extremities were becoming helpless, the right forearm showing the most loss of power. A partial wrist-drop was produced by paresis of the extensor muscles. Her tongue was coated and dry; she expectorated tough, tenacious sputa. The pupils were slightly contracted. Her expression of face was wild, haggard, and suspicious. She imagined that she had a hair on her tongue, and kept her attendants busy trying to remove it. Her pulse was 120; temperature in the right axilla, 104°; on the forehead, 96°. Hypodermics of sulphate of morphia were administered. At 12.30 P.M. her condition remained about the same.

She was seen again between 9 and 9.30 A.M. on the 26th. She complained of the need of food and drink, but was still unable to swallow liquids, and solids only with great effort. She said that the attempt to swallow smothered her. She was weaker and more anxious; rolled and pitched in bed. Spasmodic movements of the face and hands continued. She was worried dreadfully by the currents of air made in moving the bed-clothing. She complained of a feeling of lassitude and weakness, especially in the hands. In the right hand she had no grasping power. Anæsthesia of the hands and forearms was determined to be present by the æsthesiometer. Irritation of the skin brought out marked reflex response from the hands, to a less extent from the feet. She had vomited several times. Her pulse was 128, weak, and compressible; axillary temperature, 103.2°; temperature of forehead, 95.2°; respirations, 24. She was now given one-thirtieth of a grain of the sulphate of curare hypodermically into the right forearm. Her urine was obtained, and examination of it subsequently by Dr. Mills showed albumen in abundance and a slight trace of sugar. Nutritious enemata were no longer retained.

A curious fact, and worth noting, was that ever since she had been taken sick she had kept her pet dog—of which she was very fond—in the room, and even sometimes in the bed with her.

At 12, noon, on the 26th, the spasms seemed much better. She felt more comfortable, and had eaten some solid food. The curare appeared to have exercised a favorable influence. She was, however, expectorating a pinkish, frothy fluid. Her mind was clear. Her urine was loaded with urates. Her pulse was 120; temperature, 103°. Another hypodermic injection of sulphate of curare was administered.

At 6.30 P.M. she was much weaker; the loss of power had extended to her lower limbs. She was spitting profusely. She refused to have any more hypodermic injections. She imagined that she saw beasts in her room, and that lime was spread on her bed. Her pulse was 144; axillary temperature, 105.5°; temperature of forehead, 100°; respirations 36, jerking. Sulphate of morphia was administered by the rectum.

At 12, midnight, she was still conscious, but very weak. Her face was puffy; her pulse was very irregular; her eyes were staring wide open, the pupils dilated. Muscles of the face were almost constantly twitching spasmodically. Enemata passed from her.

At 3.30 A.M. on the 27th she was still worse. Her pulse was 160; axillary temperature, 106°; respirations, 40. Her eyes still remained open, the pupils widely dilated. The conjunctivæ had become injected. She vomited occasionally a clear, viscid substance.

At 5.25 A.M. her limbs suddenly straightened; her face became horribly convulsed; her hands became clenched and rigid; her body was spasmodically bent backwards. This condition of violent tonic spasm continued for five minutes, when she relaxed—dead.

A post-mortem examination was made forty-eight hours after death, Drs. Mills and Updegrove assisting. We were only afforded the opportunity of examining the brain and spinal cord. Both the cerebral and spinal pia mater were hyperæmic, this condition being most marked at the base of the brain. The upper part of the cord and the medulla oblongata were less consistent than is normal. The only definite naked-eye lesions, however, were a number of bloody points and spots on the floor of the fourth ventricle. Just above the level of the acoustic or medullary striæ were three bloody spots in the substance of the floor, one in the centre and one on each side of the median line. The central spot was the least well marked; that to the left was the deepest and largest. Other areas of congestion and extravasation were scattered here and there over the ventricular floor, the most marked, after those just noted, being at the upper limit of the ala cinereæ, and just below the locus ceruleus on each side. The specimens obtained were referred to Drs. Mills and Seiler.

Remarks by Dr. Collins.—I have taken the liberty of claiming the attention of the Society to a detailed account of this case, believing that its importance warrants a minute history. The hydrophobic symptoms were certainly well marked. The picture of this case contrasts so strongly with that of a case of tetanus which it was my misfortune to treat during January of this year, that I can hardly believe in the unity of the two affections exemplified by the two patients. The peculiar surroundings and the strong common sense of the patient precluded the idea of simulated hydrophobia. I shall not indulge in any lengthy remarks upon the clinical phenomena presented. It might be worth while to direct special attention to the fact that albumen in abundance and a trace of sugar were found in the urine. Claude Bernard, it is well known, has demonstrated that the secretion of urine and its character can be influenced by irritation of the floor of the fourth ventricle, the situation of the only tangible lesions found in this case.

The microscopical examination of the specimens obtained was made by Dr. Carl Seiler.

Microscopical Report by Dr. Seiler.—Transverse sections of the spinal cord from the middle of the lumbar, dorsal, and cervical regions were prepared.

Lumbar Region.—An infiltration of cellular elements in the external walls of the blood-vessels was found throughout the section, and was most strongly marked in the anterior and posterior horns, and in the lateral columns near the posterior roots. The lateral columns showed a slight increase in the nuclei in the neuroglia. The ganglionic cells appeared slightly cloudy. The pia mater, especially at the posterior portion of the cord, showed numerous collapsed capillaries filled with dark, granular pigment, probably the remains of old blood coagula.

Dorsal Region of the Cord.—Here the same appearances were observed as in the lumbar region. The infiltration of the outer walls of the vessels was, however, more marked, especially at the roots of the posterior horns. Some of the veins were widely dilated. The pia mater appeared thickened, with its vessels infiltrated, but none of the pigmented capillaries were seen. The roots of the spinal nerves showed an increase in cellular elements.

Cervical Region of the Cord.—The same appearances were again observed in this region, but less marked than in the dorsal region. In addition, the membrane in the anterior fissure was much infiltrated with cellular elements. The change in outer coat of the vessels was most marked in the posterior portion of the cord near the surface. The pia mater was at this portion seen to be filled with collapsed and pigmented capillaries.

Complete transverse sections were also made from the lower and upper half of the medulla oblongata, from the central portion of the pons, and sections from the cerebellum, from the optic chiasm, and from the motor region of the convolutions. The sections from the cerebellum were sufficiently large to include portions of the gray and white matter, and of the corpus dentatum; those from the cerebrum were also large, including the entire depth of the convolutions and the white matter beneath for some distance.

Lower Portion of the Medulla Oblongata.—This region showed the infiltration of the outer walls of the vessels, as well as the increase in the nuclei of the neuroglia, well marked at the posterior portions. Capillaries containing granular pigment were found in the pia mater covering the anterior portion.

Upper Portion of the Medulla Oblongata.—The outer walls of the vessels were very much infiltrated in the ventricular or posterior portion. An increase of nuclei was noticed, as well as a granular and pigmented condition of the ganglionic cells in the vicinity of the centres traversed by the section. In other portions of the medulla the ganglionic cells were normal. Collapsed capillaries, containing granular pigment, were numerous in the pia mater covering the anterior portion of the medulla.

Central Portion of the Pons Varolii.—The same appearances were observed here as in the cord and medulla oblongata. A large clot was seen in one of the larger vessels near the median line of the floor of the fourth ventricle. The centre of this clot appeared very old, and was spindle-shaped, occupying one-third of the calibre of the vessel. It was surrounded by more recently coagulated blood, filling the whole vessel.

Cerebellum.—The changes noticed here were an infiltration of the outer walls of the blood-vessels in and near the corpus dentatum, and in some portion of the membrane covering the cerebellum. Pigmented capillaries were also found.

Cerebrum.—The infiltration of the outer walls of the vessels was very slight. The course of many vessels was marked by blood-pigment, evidently the remains of old extravasations which had been partly absorbed. The pia mater appeared to be normal.

Optic Chiasm.—Here a slight increase of the nuclei in the neuroglia was noticed, and also the infiltration of the walls of the vessels.

In order to make a comparative study, portions of the brain and spinal cord from a case of epilepsy were also placed by Dr. Mills in the hands of Dr. Seiler, who prepared sections that would correspond as closely as possible to those from the hydrophobic case. Attention cannot fail to be attracted by the similarity of the lesions found in the two cases. The sections were also carefully examined by Dr. E. O. Shakespeare. The following is the report of Dr. Seiler:

Cervical Region of the Cord.—Nothing abnormal was found except an increase of the nuclei in the neuroglia.

Medulla Oblongata.—Increase of nuclei in the neuroglia and granular and pigmented ganglionic cells were found.

Pons Varolii.—The blood-vessels were dilated and their outer walls slightly infiltrated with cellular elements. An increase of the nuclei of the neuroglia in and near the ganglionic centres was observed. On the floor of the fourth ventricle, a little to one side of the median line, a widely dilated vessel was seen, filled with freshly coagulated blood and surrounded by an extravasation of blood.

Cerebellum.—The changes noticed here were a considerable amount of infiltration of the outer walls of the vessels, both in the membranes and the substance of the cerebellum, especially in and near the corpus dentatum.

Frontal Convolutions of the Cerebrum.—The vessels were dilated, but their walls were not infiltrated. An inflammatory infiltration of the brain substance was, however, present around some of the vessels. In the parietal convolutions the same changes were observed.

Occipital Convolutions.—The gray matter was found to be in a state of hyperplastic irritation, while the white matter was sclerosed to a very considerable extent. Some of the blood-vessels also were sclerosed.

REPORT OF A CASE BY DR. MILLS.

On the 18th of November, 1877, about 11.30 P.M., I was called, with my friend Dr. William A. Burns, to see a case that presented hydrophobic symptoms. The patient was a boy, 2½ years old. Six weeks before, it was supposed that he had been slightly bitten by a Spitz dog, which had jumped at him in a playful manner. He had two abrasions, one above and one below the left eye, which might have been produced by the dog's teeth, or might have been bruises received in falling.

The boy's parents first noticed that he was out of sorts on the morning of the 17th, when he was peevish and irritable and showed a great fear of falling on being carried about. The next morning he was again drooping and restless, and when, in the afternoon, an attempt was made to wash him, he became very much excited and terrified. About 6 P.M. he had a slight convulsion, and from that time until seen by Dr. Burns, at 10.30 P.M., he had similar spasmodic attacks every few minutes.

The doctor found the child sitting in his father's lap; his face had a terrified look; the pupils were widely dilated; his pulse was rapid, his skin hot, and respirations frequent. His entire body seemed hyperæsthetic; touching him with the hand brought on a spasm, as did also the current of air produced by opening and shutting the door. He did not complain of pain. The sight of a glass of water brought on a severe spasm, which appeared to involve the muscles of the throat, neck, and arms. On trying to swallow a little water, he was unable to do so, and the effort brought on another severe convulsion. During the hour which elapsed before I saw him with Dr. Burns he had several repetitions of these convulsions. Just after I entered the room he had a slight spasm. He wished a drink, and again made an effort to swallow a little water, but immediately became convulsed. The spasms were of short duration and partook both of a tonic and clonic character. The head and body were suddenly bent backwards, and, at the same time, the muscles of the pharynx, larynx, and chest were apparently spasmodically contracted.

The face, arms, and hands also twitched convulsively, the movement being worse on the left side. The child made a restless spring and his entire body trembled. His face became congested, and its expression was that of great anxiety and alarm. His pulse ranged from 120 to 130.

We directed the maintenance of complete calmness and quiet. Five grains of chloral were mixed with a little water, and the child succeeded in swallowing a portion of this. During two hours he had altogether five paroxysms of spasm, a slight one on giving the chloral and four others. Between twelve and one o'clock his bowels were opened, and he passed his water freely, after which he seemed easier. Between 1 and 2 A.M. another small dose of chloral was administered. Between two and three o'clock, the little patient seeming much better, we concluded to leave him for a few hours, directing, before our departure, ten grains of potassium bromide to be given every two hours in milk. We saw him again at 7 A.M. He had been feverish and excited during the night, but had only had four convulsive seizures. He had succeeded in swallowing a little milk. The whole expression of his face was still one of profound fear. He talked in a rapid, incoherent way to his father.

During the day he was seen by Dr. Burns and myself a number of times, and also by Professor H. C. Wood, who coincided with us in the view that the case was probably one of hydrophobic character.

The spasms recurred at intervals of half an hour or less during the day; the difficulty in swallowing became less; beef-tea, milk, potassium bromide, and chloral were administered. A record of the temperature, pulse, and respiration was kept as follows:

At 10 A.M., the temperature was 104° F., the pulse 130; at 12 M., temperature 103.2°, pulse 128, respirations 21; at 3 P.M., temperature 103°, pulse 160 (?), respirations 33; at 4.30 P.M., temperature 105.3°. He became steadily weaker and weaker. During the afternoon he ejected a viscid discharge from his mouth almost constantly. He died, apparently of exhaustion, about six o'clock.

We could only obtain permission to make a spinal post-mortem examination. The spinal cord and attached membranes and fragments from the deep muscles of the back were placed in the hands of Dr. Carl Seiler for examination.

Dr. Seiler made the following report. Inspection and microscopical examination showed the following conditions: (1) The spinal dura mater was thickened on the left side the whole length of the cord. (2) Sections made from the cord at intervals of one inch showed a general sclerotic thickening of the vessels, with an increase of nuclei in the substance of the cord. In the upper third of the cord the posterior columns were slightly fatty, oil-globules being found in most of the multipolar ganglionic cells. (3) The muscular fibres taken from the piece of muscle were found to be normal, the striæ being perhaps a little less distinct than is generally found. From all appearances there seems to have been an old inflammation, both in the cord and its membrane, with perhaps an acute inflammatory process imposed upon it.

REMARKS ON THE NATURE OF HYDROPHOBIA BY DR. MILLS.

The commonly accepted view in regard to hydrophobia in man is that which considers it a disease produced only by the implantation of a specific virus. I believe, however, with Hammond that it is perfectly possible that it may be a nerve disease from the beginning. This is not by any means a new doctrine; it is as old as the age of Democritus, the laughing philosopher, who described hydrophobia as an inflammation of the nerves, and classed it with the severe spasmodic diseases allied to tetanus (Bollinger, "Ziemssen's Cyclopædia," vol. iii. p. 433). I do not, with some, deny the existence of an affection which may for want of a better term be called hydrophobia; that a horrible spasmodic disorder sometimes follows the bite of a dog cannot be doubted, but that it is a specific blood disease may well be questioned. The arguments in favor of this hypothesis are, to say the least, not convincing, and against it can be urged many facts, etiological, clinical, and pathological.

The cases called hydrophobia probably represent several different affections. Certain acute or chronic diseases of the brain and spinal cord, or their envelopes, may, for instance, give rise to similar spasmodic and other symptoms. I need only mention localized meningitis, and tubercular, syphilitic, or other growths upon the floor of the fourth ventricle. Increased reflex excitability and spasm of the muscles of respiration and deglutition, the most constant symptoms in reported cases of hydrophobia, may be caused by any affection which acts directly or indirectly as an irritant to certain areas of the medulla oblongata and pons Varolii. Epilepsy, tetanus, and hysteria have, it is well known, not infrequently been supposed to be hydrophobia. Leaving out the cases of mistaken diagnosis, I incline to look upon the hydrophobic cases in man as primary affections of the nervous system, as probably belonging to what are termed reflex neuroses. Just as in traumatic tetanus and reflex epilepsy, so in so-called hydrophobia, the irritation caused by a peripheral nerve wound is conveyed by afferent fibres to spinal and medullary centres, and there induces molecular and vascular changes, which lead to the well-known spasmodic and other manifestations. As the time at the disposal of the Society is limited, I will not be able to go into much detail in the consideration of this subject. I trust, however, that I may at least succeed in eliciting a discussion that will bring out the opinions and valuable experience of those present.

The bites of dogs supposed to be rabid often do not produce hydrophobic symptoms, and it seems probable that the same causes which act or fail to act in the production of tetanus are at work in these cases rather than that inoculation is prevented by accident or individual predisposition.

Many facts are on record to show that the bites of animals not rabid may produce hydrophobic symptoms. In neither of the cases reported this evening was the dog supposed to be mad.

Wounds upon the face are known to be much more likely to lead to hydrophobia than those upon other portions of the body. This, I believe, is not simply because the face is the least protected region. Supposing the peripheral nerve-irritation theory to be the correct view, it can easily be seen how a strong impression, carried by afferent fibres to the trigeminal nucleus, will set up there a state of vascular and molecular irritability, which will be quickly radiated to the adjoining nuclei of the glosso-pharyngeal, pneumogastric, and other cranial nerves concerned in the special manifestations of hydrophobia.

The physiological experiments of Hertwig are usually considered as strongly favoring the doctrine of a blood poison, and yet out of fifty-nine attempts at inoculation he obtained only fourteen positive results. Might not these have been due as much to the wounds inflicted as to the introduction of a peculiar virus into the blood?

Any one who has studied carefully the reports of cases of hydrophobia must have been struck with the great differences in the symptoms detailed. Most of the text-books state that in hydrophobia the spasms are clonic while in tetanus they are tonic, and yet in the reports in cases supposed to be hydrophobic we find not infrequent references to various forms of tonic spasm. Quite recently, for instance, I read in the *Lancet* the account of a case in which every link in the chain of events which leads to the diagnosis of hydrophobia was present. The patient had been bitten by a dog, probably rabid, seven weeks before the appearance of the earliest symptoms, which were restlessness and difficulty in swallowing. Spasms, severe and tetanic in character, set in, trismus and extreme opisthotonos being present. Recovery took place under the use of inhalations of chloroform and hypodermic injections of calabar bean and morphia. I refer to this case particularly because it serves to illustrate a point which I wish to make, namely, that the symptoms in the disease properly called hydrophobia—that is, a spasmodic affection following the bite of an animal, usually a dog—are not always typical. Between hydrophobia, true tetanus, and reflex epilepsy the differences in the spasmodic symptoms are in degree rather than in kind.

Rose, who strongly argues against the identity of hydrophobia and tetanus, nevertheless describes a form of tetanus which in a more advanced stage presents a perfect picture of hydrophobia, the tetanus of the head or *tetanus hydrophobicus*. If in a spasmodic affection undoubtedly due to a wound other than the bite of an animal we get typical hydrophobic symptoms, it is far from absurd to suppose that hydrophobia frequently is the direct or indirect result of peripheral nerve-irritation.

A favorite procedure, and one that has seemed in many cases to do good, is cauterization at the seat of the bite. Caustic potash, nitric acid, the actual cautery, burning with gunpowder, excision of the wound or cicatrix, and amputation of the wounded part are among the measures of local treatment frequently employed. The general supposition seems to be that by these destruction of the virus is brought about. Is it likely that this is the case? I believe that these plans of treatment, which I am far from discountenancing, are more probably efficacious from the effect which they produce upon peripheral nerve-tissue.

Pathological anatomy has not done much as yet to clear up the mystery of hydrophobia. I certainly agree with Bollinger that the morbid changes which have been found in the human subject are of an unsatisfactory character. Meynert, Allbutt, Lockhart, Clarke, Hammond, and a few others have reported the results both of gross and microscopical investigation, but without arriving at anything very determinate. In most respects their observations upon the central nervous system correspond with those made by Drs. Collins, Seiler, and myself in the case just reported. Changes such as the following have been noted by these observers: thickening of the walls of the blood-vessels and increase in their size and number; extravasations of blood, particularly into the pons and medulla oblongata; amyloid degeneration and nuclear proliferation of the cells of the neuroglia; and granular degeneration of nerve-cells. Like changes have been found in other cerebro-spinal affections. We have shown this evening analogous conditions in specimens from epileptics.

The microscopical examination, both in the hydrophobic and epileptic cases just reported, seemed to show that both the central nervous organs and their blood-vessels had been for a long time in an unhealthy condition. This fact affords an explanation of many cases of so-called hydrophobia. The central nervous system is in a chronic state of disease from syphilis, alcohol, or other cause, and as an accidental coincidence, or as the direct result of the peripheral irritation set up by a dog-bite, we have spasm and other hydrophobic manifestations. In the case seen by Dr. Burns and myself, post-mortem investigation revealed thickening of the spinal dura mater as well as sclerotic and fatty degeneration.

The lesions found in the floor of the fourth ventricle in both the hydrophobic and epileptic cases reported this evening are worthy of more detailed consideration than can at present be given to them. Schroeder van der Kolk, Echeverria, and others have called attention to the congested foci, dilated capillaries, and extravasations found in the pons and medulla oblongata in epilepsy. In several cases of fatal convulsive disease, I have noted particularly the position of congested and hemorrhagic areas. The most constant of these are situated a few lines above the acoustic or medullary striæ. Usually at this level will be found a bloody spot on each side of the median line, while in the median line will be seen a less intense focus of congestion. Other vascular points and spots, sometimes duplicate or triplicate and sometimes isolated, are scattered here and there. Some are in direct relation with the nuclei of certain cranial nerves. It is not improbable that some of them indicate the position of great basal centres, vaso-motor, respiratory, reflex, etc., the exact position of which physiologists have long and vainly sought to determine.

NOTE ON BISMUTH SUBNITRATE.

BY HENRY LEFFMANN, M.D.

Read before the Philadelphia County Medical Society, June 9, 1880.

RECENTLY I had occasion to examine the stomach of a woman supposed to have died from poison, and who had taken during her last illness several doses of bismuth subnitrate. A quantity of it remained in the stomach, and, upon making a microscopical examination, I was much surprised to find the entire mass made up of well-defined crystals. I had never studied the physical condition of this remedy, but had always taken for granted that such an insoluble substance would be used only in the form of an impalpable or, at least, amorphous powder. Its method of preparation and irregularity of composition would also be in favor of this view. A similar opinion was entertained by several physicians and pharmacists of my acquaintance. Most of the books either leave the physical condition undescribed or speak of it as pulverulent. Taylor (On Poisons) especially calls it "uncrystalline." The United States Dispensatory speaks of it as being in "minute crystalline scales," which hardly describes the condition.

To pursue the matter, I obtained samples from various places, and discovered that one of the large manufacturing firms in the city furnishes regularly a crystalline preparation, another firm furnishes an amorphous powder. The crystals vary somewhat in size, but those of the most abundant variety are about $\frac{1}{500}$ of an inch long and $\frac{1}{1000}$ of an inch wide. I consider this observation of some importance, in view of the fact that the solution and absorption of such powders must be greatly facilitated by fine division; and even if we adhere to the view that bismuth subnitrate acts mechanically by spreading over the mucous membrane, it would seem that a smooth and impalpable powder would answer best.

In this connection it may not be amiss to remark that, from experiments made in the course of another investigation, I have found that the homœopathic triturations of arsenic bring that medicine to a mechanical condition in which it is much more easily mixable with liquids than when in its ordinary state.

I have brought with me this evening this specimen, which is a portion of the bismuth subnitrate found in the stomach. You will notice that the finer particles have been dissolved or washed away, and that we have a coarse crystalline powder. The dark color is, in all probability, due to the formation of bismuth sulphide from the gases of decomposition.

I display, also, by means of microscopes, two slides, bearing, respectively, crystalline commercial subnitrate, amorphous commercial subnitrate. I have made a number of experiments with a view of ascertaining the chemical conditions under which the two forms of the precipitate are produced, but have not yet reached any definite result.

DERMOID TUMORS OF THE CORNEA.

Read before the Philadelphia County Medical Society, June 9, 1880,

BY JOHN B. ROBERTS, M.D.,

Lecturer on Anatomy and on Operative Surgery in the Philadelphia School of Anatomy.

THE specimens of dermoid tumor of the eyeball which I show this evening are interesting, I think, because they are infrequently seen even by the ophthalmic surgeon. Hence I have ventured to present them for the consideration of the Society, even though these eyes formerly belonged to one of the lower animals. The pathology of such growths is the same, of course, in the human subject, but it is seldom that such good examples are seen in any form of animal. I know nothing of the specimens, except that the eyes were removed from a young bullock in one of the slaughtering establishments of this city, and were preserved because of their peculiarity.

It will be seen that each cornea is partially covered by a circular, somewhat elevated growth, closely studded with reddish hairs such as are seen upon the surface of the animal. The hair is perhaps three-eighths of an inch long. In one eye the tumor involves the sclerotic region and then invades about one-third of the cornea, while in the other eye the growth seems to be limited almost exclusively to the corneal tissue, leaving only about one-fourth of its surface free from involvement. The tumors are about the size of a ten cent-piece, and in one the continuity of the conjunctiva of the sclerotic with the surface of the tumor is easily seen.

It is well known that the conjunctiva is a mucous membrane, and that its epithelial layer is continued over the cornea. This explains the occasional occurrence of dermoid tumors upon the cornea, and the fact that usually they encroach upon the cornea from the conjunctiva covering the sclerotic. As the mucous membrane is histologically similar to cutaneous tissue, it is not surprising that hair should be developed upon the eyeball. In some of the lower quadrupeds the skin of the face is, I believe, continued over the eyeball, and is supplied with hair. This is a further illustration of the same principle.

Dermoid tumors of the cornea in man are usually congenital, as these in the calf doubtless were, and are more prone to extend from the conjunctiva and sclerotic to the surface of the cornea than to be limited to the cornea itself. There is usually little hair upon them, but they contain the same histological elements as skin. A case is recorded* where hair appeared at the time of puberty, when the boy's beard began to grow. These tumors are seldom rapid in growth, and may remain almost the same for years. They are, of course, non-malignant. Dr. Risley has recently reported† an instance of a somewhat similar dermoid tumor of the eyeball to the Pathological Society of this city, and other cases are, I think, recorded in the "Transactions" of that body. In a recent journal‡ an article appeared, descriptive of a case of development of hair on the eyeball of a dog. The hair invaded the margin of the cornea and extended to the outer canthus. This was doubtless a growth of this kind.

The treatment of such cases in the human subject may be mentioned. The amount of blindness depends, as is readily appreciated, upon the extent of cornea involved. Hence in some cases the impairment of vision may be so great as to necessitate an attempt at removal. If the growth is superficial, it may be pared off as we do in pterygium, which is a somewhat analogous structure. The cornea is frequently, however, involved to a considerable depth, and the anterior chamber may be opened in the attempt. In such cases, moreover, operation will be of little value, even if there remain sufficient corneal tissue to prevent perforation, because corneal opacity will remain at the cicatrix.

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* Wardrop's Morbid Anatomy of the Human Eye, i. 32; quoted by Wells.

† Philadelphia Medical Times, June 19, 1880, p. 490.

‡ Journal of Anatomy and Physiology, xiv., i. 143; from London Medical Record.

ADYNAMIC PNEUMONIA.

BY E. T. BLACKWELL, M.D.

DURING my earlier practice I saw considerable pneumonia answering to the classical description, and characterized by a full, strong pulse and bright-red sputa, that easily gave way to depressing remedies, notably quinia and blisters. The latter, when early applied, while the powers of life had good resistance, seemed to exert a controlling influence. Especially was this manifest in the catarrhal form affecting young children.

The pneumonia, however, which most claims our attention exhibits from its beginning not vigor, but great weakness and tendency to prostration. The patient lies upon his back. The pulse is rapid, while the surface may be bathed in perspiration. The sputa, the mucous membranes, and the skin are dark-colored. There is great restlessness and speedy loss of strength. This is typhoid pneumonia, or pneumonia with hypostasis, and the treatment useful in the sthenic variety is worthless, if not absolutely pernicious. The pulse rises instead of falling; the difficulty of breathing is exaggerated instead of being lessened; and the powers of life quickly fail. I subjoin a few illustrative cases:

Mrs. S., aged about 50, of a delicate constitution, was taken, January 31, 1875, with chilliness and pain in the side, a high fever following. I saw her at 9 o'clock A.M., February 1. She had slept none during the night, and was lying upon the back, profusely perspiring. Her breathing was very quick and shallow, and she was expectorating a bloody mucus. The bowels were shut; pulse 112.

A blister was immediately applied to the whole of the affected part, and the following medicines ordered:

℞ Hydrarg. chl. mit., gr. iii;
Sodii bicarb.,
Quiniæ s., āā gr. xii.

Mix, and divide into eight powders, one to be taken every three hours.

℞ Potassii citratis, ʒj;
Ex. aconiti fl.,
Ex. digitalis fl., āā gtt. xii;
Sp. ætheris n.,
Aq., āā ʒvi.

Mix. A teaspoonful to be given alternately with the powders.

Morphia was prescribed for the restlessness and to procure sleep.

February 2 I was sent for in haste, arriving at 10 A.M. The breathing had not improved; the tongue was dry; the bowels still closed; the urine hot and red; the skin moist; the voice whispering; the pulse quick and weak; the respiration bronchial; and every movement was attended with exquisite pain. As the epispastic had failed to produce a sufficient blister, the surface was painted with cantharidal collodion.

7 o'clock P.M. The patient had dozed some, and seemed to breathe easier; the urine was freer, and there had been an evacuation by the bowels. Medicine to be continued as before. On the morning of February 3, the fourth day of the disease, collapse occurred, and she died.

W. R. R., a farmer, about 40 years of age, was taken, March 28, 1875, with chills, alternating with fever and free epistaxis. When I saw him, the day following, he had "a catch" in the left hypochondrium, cough, and expectoration of mucus, with some blood. The pulse-rate was 110; the skin moist, but red and congested; the soft palate, also, presenting a punctate redness. The bowels were moving freely. No false sounds could be detected over the affected part. The same medicines were ordered as in the preceding case, except the calomel, and domestic applications were made to the chest. The next day he was coughing up a rusty mucus, was sweating profusely, his headache continuing; pulse unchanged. The chest was still resonant, and he was careful to show me that he could fully inflate his lungs. Belladonna was added to the medicine to check the sweating. In the night he became delirious and very restless, complaining of his bowels and head. I was summoned, arriving at 1 A.M. of April 1. His pulse was unchanged, and he was drenched with perspiration. The iodide of potassium was substituted for the citrate, and paregoric elixir added. At 5 P.M. there was less perspiration, the pulse was 105, and epistaxis had recurred. April 2, the tongue was cleaning; pulse 102. 3d, had had fever during the night, succeeded by free sweating; was very restless, needing morphine; his urine was loaded with straw-colored precipitate; the tongue was moist, but heavily coated, except at the tip; the bowels were tender and tympanitic; the pulse 111, and rather weak. He still raised stained mucus, and auscultation revealed some blowing respiration in the posterior part of the chest, but no râles.

Iodine, dissolved in cantharidal collodion, was now applied to the chest, which was enveloped in oiled silk. Yolk of egg, wine, and milk were ordered. At 7 P.M. of same day the patient was delirious, with a pulse at 125. He was in a gentle perspiration. A consultation was now arranged for, to take place the day following, but the patient continued to fail, dying on the ninth day of the disease.

I took charge of the following case August 2, 1871, receiving the following history *verbatim:*

E. P., farmer, aged 34, took a cold, about the preceding holidays, while moving a stone fence, having towards spring what was called whooping-cough, attended by a foul corruption, lasting till the beginning of May. He raised, especially after breakfast, "a swillpailful." Frequently threw up his breakfast, coughing till he became red in the face. His immediate sickness dates from July 24, commencing with an agony in the loins and hips and a pain in the head, accompanied apparently by congestion, as he says he knew but little. These symptoms, in less severity, with a morning and evening paroxysm of fever, prevailed until the date of my visit, which was during an interval, the pulse marking 78. The tongue had a thick, creamy coating, and he had a cough, with mucoid sputa. His urine was nearly thick; his bowels had been costive throughout, but he had taken "salts" twice, with a hypercathartic effect. On physical exploration of chest, there was found dulness of percussion in the right lung, anteriorly and posteriorly, with prolonged expiration and increased vocal vibration at apex; on the left side there was dulness in front only. He was ordered a pill composed as follows:

℞ Quiniæ s.,
Cinchoniæ s., āā ℈j;
Acid. s. arom., q. s.

Mix, and divide into ten pills, one to be taken every four hours alternately with a mixture having expectorant, diuretic, and anodyne properties. The day following the pulse was as before, the tongue appearing cleaner. A pain was complained of about the left ear. August 4 a subcrepitant râle was heard in the lower part of the right lung, with large bubbling. The cough was tight, and the expectoration streaked with blood. The tongue was cleaner. The quinine was continued as before, and iodide of potash added to the mixture; gentian as a tonic. On August 5 the pulse was 96. A blister was applied to the chest as a counter-irritant. From this time till the 10th the pulse gradually arose, notwithstanding the constant saturation of the system with quinine; the cough was tighter, and the breathing quicker and shallower. On the 11th the tongue was chapped, and the whole pharynx covered with aphthous-looking exudation on a purplish ground. There had been high fever the preceding night, with much headache. He was urinating freely. The pulse was 107. August 12 the pulse had reached 120; respiration much interfered with. Compound spirit of sulphuric ether and carbonate of ammonia exhibited. The pulse continued to rise, ranging, on the 13th and 14th, from 130 to 150, and the tongue was marked by a dark stripe. Subsultus followed, and death on the 15th,—the fourteenth day of treatment and the twenty-fifth of the disease.

A review of the symptoms of the foregoing cases shows many which coincide with those of the infectious fevers, *e.g.*, the agony in the head and loins, the lividity of surface, the looseness of bowels, and the epistaxis; and I have been led to think well of the idea of Juergensen,* formulated in this question to himself: "Are the pulmonary lesions and the fever due to a common cause?" His reply, on a succeeding page, is clear and unequivocal: "*Croupous pneumonia is a constitutional disease, and is not dependent on a local cause. The pulmonary inflammation is merely the chief symptom, and the morbid phenomena are not due to the local affection. . . . Croupous pneumonia belongs to the group of infectious diseases.*" He observes further, "When we realize that we have to combat, not an 'inflammation,' but rather a constitutional disease, and one, moreover, of comparatively short duration, we readily fall into an expectant treatment, which bides its time, interferes only when necessity requires, and does not see in the mere name of the disease an indication for attack. If we are chiefly occupied with the idea of a 'phlogosis,' we must necessarily associate with it 'the antiphlogistic treatment.'"

This being his judgment of the nature of the malady, he says, "*Nature cures, and the only duty of the physician is to maintain life until the cure is effected.*"

The morbid phenomena, according to this author, are: "1st. An interference with the functions of the lungs. 2d. Fever. Neither of which conditions is fatal by itself. . . . *Death results from*

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* Art. Croupous Pneumonia, Ziemssen's Cyclop., p. 143.

insufficiency of the heart. . . . It is the heart, and always the heart, upon which the burden is ultimately thrown." He would meet the indications by—"1st. Prophylaxis against exhaustion of the heart. 2d. Control of existing exhaustion. The fever is the first point of attack for treatment." With this, he says, "in the present condition of our knowledge, the prophylaxis against exhaustion of the heart coincides essentially."

He would reduce it by baths of from seven to twenty-five minutes' duration, of a well-water temperature, guarding against collapse and securing proper reaction by administering wine before and after the bath. In the enfeebled he would gauge the temperature of the bath at 78°, and its duration from twenty to thirty minutes. Further he says, "There are cases of pneumonia in which the violence of the fever, as shown not merely by the absolute height of the temperatures, but also by the resistance to the abstraction of heat, can be broken only by the most energetic and rapidly-repeated efforts to lower the temperature," detailing a case in which he used baths of 43° to 41° F., and of a duration of ten minutes, repeating the injunction as to the conjoined stimulant. "In addition to the direct abstraction of heat," he adds, "I always use quinine." The assuaging of pain, the production of sleep, a plentiful nutriment, and the genial effects of light are also insisted on.

This is the treatment of Juergensen, in the main. Whether we shall accept it, and can carry it out in remote places, time must determine. It is evident our author has no experience with asthenic pneumonia, as he says, "The pulse falls at the same time with the temperature, but remains full and strong, or is improved in character if it had been previously weak." This coincides with my observations of the action of quinine in the epidemic of typhoid fever occurring in my practice in the summer and autumn of 1862.* Under its use the pulse fell daily, remaining full and of good strength.

But *these were sthenic cases*. In asthenia the result is directly opposite, as proved by the cases now reported. Judging by the effects I have seen follow the taking of a dozen grains of quinine in a person not considered enfeebled, I should not be surprised to see death follow the administration of a single dose as recommended by this author,—sixty to eighty-seven grains. I am positive that perseverance in large doses of this drug, when the pulse quickens under its use, hastens collapse by its intense depressing power. In addition to the cases under my own care, I have recently seen an instance, as consultant, in which the quinine was a contributing element in the final catastrophe.

The doses of chloral (seventy-seven to one hundred and twenty grains), notwithstanding its acidulation by "diluted hydrochloric acid, in order to prevent a decomposition of the chloral hydrate," and with the addition of a cardiac stimulant, seem altogether too hazardous. Having seen very good results from this drug in doses of one to five grains, often repeated, I am well content to leave these heroic measures to our brethren across the water.

TRANSLATIONS.

The Occurrence of Tails in Man.—Professor Virchow (*Virchow's Archiv*, Bd. 79, p. 176), in a brief article on this subject, refers to several cases which have been reported by recent or older writers. Dr. Ornstein, of Athens, surgeon-in-chief of the Greek army, has recently reported several instances of abnormal growth of hair in the sacral region, which Virchow designates as "sacral trichosis." Ornstein's view was that these growths were atavic in character, and were analogous to the hairy tails of inferior animals. Virchow, having met with a case of partial lumbar trichosis, investigated the matter, and came to the conclusion that two similar but distinct conditions may exist,—either a simple growth of hair or a hairless prolongation from the coccyx of a cutaneous nature. Virchow's case appeared, on examination, to be an unusual form of nævus pilosus, situated over the closed spina bifida of an adult woman, and evidently to be explained by the supposition of early local irritation. But, on the other hand, medical literature certainly affords a certain number of examples of true tail-formation in man, this appendage apparently resulting from elongation of the vertebral column. None of these cases, however, were complicated by the abnormal growth of hair. One of Ornstein's cases showed a distinct elongation five centimetres in length. It appeared to originate in the attachment between the first and second false vertebræ of the coccyx. The process itself was hairless, but a decided collection of hair appeared over the sacral region.

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* N. J. Med. Soc. Transac., 1863.

Michel has pointed out that in the human embryo a rudimentary tail is distinctly made; and the discovery of men with tails seems to lend support to Lord Monboddo's theory that all mankind originally wore them. Virchow remarks upon the frequent occurrence of a considerable quantity of hair upon the sacral region of new-born children.

One of the longest tails on record is that reported by Greve in 1878 (*Virchow's Archiv*, Bd. 72, p. 129). This occurred in the case of a new-born infant, was 7.5 centimetres in length, and moved about when pricked with a needle. It was removed by an operation. Virchow recently dissected this tail, and found it not to contain any bone, cartilage, or muscle; nevertheless, it was a good substitute for a tail.

The custom among certain savage nations of attaching artificial tails to the person has been regarded by some anthropologists as a reminiscence of the happier times of tailed ancestors. Virchow, however, throws some doubt on this.

PYROGALLIC ACID IN PSORIASIS.—Dr. Charrassé (*Bull. Gén. de Thérap.*; from *Montpellier Méd.*, May, 1880, p. 416) gives the results obtained in the hospitals of Montpellier by the topical treatment of psoriasis by pyrogallic acid, which are as follows:

The best ointment is that containing five to fifteen per cent. of pyrogallic acid (℈i–℈iv ad ℥j). It is the best known application in psoriasis, reducing the duration of treatment to an average of three or four weeks. The ointment should not be made stronger than twenty per cent. (ʒiss ad ℥i); otherwise its application is apt to give rise to erythema, or even dermatitis or ulceration. One to four frictions daily should be practised. Pyrogallic acid is better borne than other agents, and has the advantage of not causing pain and of being inodorous.

Pyrogallic acid is no more a cure for psoriasis than other topical remedies: that is to say, it does not prevent relapses; it only cures the external manifestations of the disease. For this reason it should be associated with internal medicines, as arsenic, in order to get the best results. Nevertheless, frictions of pyrogallic acid will sometimes alone suffice to cure psoriasis.

There does not appear to be any precise indication for its employment; it is useful and gives good results in all stages of the affection, and in every variety. The observations of Kaposi, Jarisch, Arragon, and Bruyère confirm Charrassé's statement on this point. Aubert, of Lyons, thinks that the frictions should not extend over too large a surface (death has, we think, been reported as the result of too extensive inunctions of pyrogallic acid.—TRANS.).

The principal objection to the employment of pyrogallic acid is the brown color which it gives to the integument; but this coloration is not constant nor everywhere well marked, and it disappears after some days.

TREATMENT IN CASES OF INTRA-PERITONEAL RUPTURE OF HYDATID CYSTS.—At a recent meeting of the Académie de Médecine (*Le Progrès Méd.*, 1880, p. 426) M. Fereol read a paper on this subject, in which he states that in the present condition of our knowledge it is impossible to say exactly what circumstances determine the comparative mildness or malignity of the symptoms which accompany rupture of hydatid cysts into the peritoneal cavity. The following conclusions, however, may be stated with some degree of confidence: 1. Previous suppuration of the cyst gives rise in case of rupture to a subacute, rapidly fatal peritonitis, at least where the peritoneum has not been sealed by adhesions which limit its inflammation. 2. The penetration into the peritoneum of an absolutely limpid and clear fluid, which appears to be inoffensive in some cases, is followed in other cases by rapidly-fatal accidents. 3. The presence of living hydatids thrown into the peritoneum is less dangerous than that of dead hydatids: spontaneous cure is possible in the former case. 4. In cases where the peritonitis following rupture becomes moderated, and where, nevertheless, ascites is produced, intervention may be practised with some hope of success if this ascites is not absorbed. Simple puncture is alone sufficient to effect a cure. If this procedure fails, it may become necessary to evacuate the foreign bodies contained in the peritoneum as soon as possible. A large opening may be made into the abdomen by a trocar, and cleansing out of the peritoneal cavity twice daily may be employed with success.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JULY 31, 1880.

EDITORIAL.

EDUCATIONAL REFORM.

IF the institutions which form the American Medical College Association are true to their promises in the recent convention, the latter will mark the successful crisis of a revolution in medical education upon this continent. Last year Professor Menees offered an amendment to the constitution of the Association, requiring all colleges which are members of the body to demand attendance upon three annual courses of lectures before granting their diploma. On consideration of this amendment at the late meeting, Professor Gross, under instructions from the college which he represented, opposed it. Nevertheless, after full discussion, it was carried, Professor Gross's being the only dissenting voice. Twenty colleges were represented in the affirmative vote, as follows:

Medical Department of University of Louisville; Hospital College of Medicine; Medical Department Iowa State University; Detroit Medical College; Medical Department University Nashville and Vanderbilt; Missouri Medical College; Kansas City College Physicians and Surgeons; Louisville Medical College; Medical Department Michigan University; Medical Department University Louisiana; Alabama Medical College; Medical College State of South Carolina; Medical College of Indiana; Cincinnati College of Medicine and Surgery; Cleveland Medical College; Nashville Medical College; St. Joseph Hospital Medical College; Chicago Medical College; Medical Department University Wooster; Kentucky School of Medicine,—20.

This change of the constitution becomes effective next year, so that after the coming winter every college which belongs to the Association must require attendance on a three-years course.

We confess to as much surprise as pleasure at the result thus achieved. It will be noticed that almost every college voting in the affirmative is a Western or Southern institution, whilst, to our shame, the opposition came solely from one of our great Eastern cities.

The College of Physicians and Surgeons of New York and the Bellevue Medical College had no representatives present in the convention, having withdrawn from the Association. Rush Medical College of Chicago, also, is not a member of the Association, and, we fear, will adhere to the old disgrace, because it still pays. It can hardly be possible that the signing institutions did not fully comprehend what they were doing when they entered into the recent compact. During a full year the matter had been staring them in the face, warning them to prepare for an inevitable vote one way or the other, and without doubt the faculties fully realized the situation: the decision must be accepted by outsiders as a deliberate one, not to be departed from without entire loss of character.

Five years ago educational reform in medicine seemed, upon this continent, a chimera. When, in 1875, the attack upon the system was made in *Lippincott's Magazine* by the present editor of this journal, the case seemed so hopeless that some of the most prominent and progressive trustees of the University of Pennsylvania, upon being shown the proof of the article, urgently requested that it be withdrawn from publication, because the times were not yet ripe. The bitter contest in the University between the young and progressive and the old and conservative elements was at last brought to a successful issue, and gave a tremendous impulse to the reform movement throughout the continent. Now the great majority of the medical colleges of the land have joined hands in the new life. There still remains a group of very powerful institutions,—Rush Medical College, in Chicago; the College of Physicians and Surgeons of New York; the New York University; and the Jefferson Medical College, in this city; and the question of the hour is, Will these persist in defying the rising tide of medical public opinion in maintaining a standard of medical education so far below that required in any civilized country other than the United States?

These institutions must conform to the higher standard, or sink out of sight in the reprobation of their own alumni. If they continue in their present course, the immediate effect upon them of the conscientious action of the associated colleges must, of course, be favorable,—at least, so far as concerns the size of their classes. There are, undoubtedly, large numbers of young men in this country who are only eager to get the right to practise medicine at the least possible cost of money, time, and labor. Squeezed out of the smaller colleges throughout the West, they will crowd into those institutions which still receive them. But can any man—will any man not connected with these colleges call gains thus acquired honorable? Will it add lustre even to a humble name to be a professor in such an institution? Can, indeed, any man who values his professional standing afford such connection?

Possibly some members of present faculties may think it wise to maintain the present status;

"For the jingling of the guinea heals the hurt that honor
feels,"

and *après nous le déluge.* Assuredly, however, it will not pay the colleges to remain as they now are. Medical public opinion is too thoroughly formed and too loudly expressed even for an attempt at justification of the course which, there is reason to fear, will be persisted in by some, at least, of these institutions. For a time pecuniary success may attend, but the delayed recompense will come. Through many decades these great Eastern schools have been abreast of their sister institutions, forward among the medical centres of the land, and have thereby acquired a deserved reputation, which gives value to their diplomas, as well as position and fame to their faculties. It is this which brings so many to their class-rooms. To get a highly-reputable diploma, cheap, dirt-cheap, is in the eyes of many of the young and inexperienced a good thing. At first crowds may flock to the lectures; but what will the after-harvest be? No man, who had been well nurtured and honorable, ever sold a character acquired through long decades at so high a price that the years did not bring the time when he felt that his reward had been a pottage of bitter herbs. In the present case the price offered is but little more than thirty pieces of silver!

As the changes made in the constitution of the associated colleges do not go into effect until next year, there is time for the outstanding institutions to do what is right; and we most earnestly urge upon their faculties, their trustees, and especially upon their alumni, the need of prompt action in the present crisis. Medical schools live in the good will of their alumni; and if those men who do not want to see their old *almæ matres* disgraced and their own diplomas made laughing-stocks will exert actively and persistently their influence, the colleges must give way. The power of one alumnus may not be very great, but the converging efforts must produce a focus capable of consuming the dross in any faculty or board of trustees.

HARVARD MEDICAL SCHOOL.

In the Harvard catalogue is a paragraph which, as pointed out by Professors N. S. Davis and S. D. Gross in their report to the American Medical College Association, indicates that the institution which has done so much for medical education now graduates men upon *one year's attendance* on medical lectures! The inference of Professors Davis and Gross seems a fair one, and we call upon Harvard to explain. We make the following extract from the report:

"The language of their catalogue for 1879–80 touching this point is, under the head of *Division of Studies*, as follows: 'Students may be admitted to advanced standing in the regular course; but all who apply for admission into the second or third class must pass an examination at the beginning of the year in the branches already pursued by the class to which they seek admission, and furnish a satisfactory certificate of *time* spent in medical studies.' Again, under the head of *Requirements for a Degree*, we are told that 'Every candidate must be twenty-one years of age, and of good moral character; must give evidence of having studied medicine three full years; have spent at least one continuous year at this school; have presented a satisfactory thesis; and have passed the required examinations.'

"In turning to the examinations required in each year, we find those of the first year to be Anatomy, Physiology, and General Chemistry; those for the second year, Medical Chemistry, Materia Medica, and Pathological Anatomy. Now, it strikes us that he must be rather a dull young man who cannot take the necessary books, get some regular practitioner to lend the use of his name as preceptor, and in two years make himself sufficiently familiar with the language of his text-books that he can pass a fair examination, either oral or written, in Anatomy, Physiology, and General Chemistry, in connection with at least two out of the following three: Medical Chemistry, Materia Medica, and Pathological Anatomy. And if he can do this, he can step directly into the third or graduating class, and complete his course by attending *one* college year, without ever having set foot inside of any other medical school."

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LEADING ARTICLES.

MEDICAL EDUCATION IN JAPAN.

A LITTLE upwards of two decades of years since there was an eccentric teacher in Kiushiu. He was ugly and was disfigured by smallpox; his personal habits were sluttish; his clothes were wretched; his rooms were always in disorder. He was a good teacher, gentle in act, though often abusive and violent in his speech, and his lessons too often went over the heads of his students. He was weak of body from long confinement and hardships, but his mind was active, his instruction advanced, and his thoughts devoted to the elevation and advancement of his countrymen. As a young man, he had wandered far in his native land to study her miseries and to ascertain a remedy; as a *Lamurai* and a military engineer, he felt that the manners of the overriding barbarians and the visits of their huge steam-vessels was an increasing menace to his beleagured country; as a patriot, he had it upon him to keep out these all-powerful foreigners. By envying them their military strength, he soon came to envying them their culture. The power and the knowledge of these foreigners were inseparable. He was soon engaged in the composition of a book advocating a new system of defences for Kioto and the establishment in the same city (that of the Mikado, or spiritual emperor of that period) of a university of foreign teachers. He hoped to get the good of other lands without their evil.

He was then twenty-two years of age. He obtained permission to become a *Rouin*,—a soldier of fortune. He walked to Yeddo, ostensibly to obtain military employment, but in reality to *steal away* in the fleet of Commodore Perry. He arrived too late: the American squadron of 1853 had steamed out of the bay of Yeddo. While lying in Yeddo, suffering from disappointment, he learned of the Russian fleet at Nagasaki, and back again to his native island trudged he on foot. He was once more too late! After gaining a few scraps of knowledge by associating with the degraded Dutch interpreters, he wearily walked back to Yeddo. Soon after Commodore Perry made his visit of 1854. Our hero, with one companion, determined to go abroad, acquire knowledge, and then return and devote their acquisitions and their energies to their country. Their act was unprecedented; it was criminal; and it was to take them beyond the pale of humanity into a land of devils! They reached the fleet, and in the dark boarded one of the vessels. But the recent treaty compelled their return to the authorities on the next day. Such disappointments are too great for commentary. They suffered a long and miserable confinement, and the simple soldier Ichigi died while yet in prison. Yoshida, our hero, while a prisoner, was intensely active,—writing memorials to the government and tracts for the people, all advocating the importance of the new learning and the immediate necessity for it. These were contraband, but he made friends among the officials, and the dissemination progressed. The government changed him from one place of confinement to another, but this only hastened the spread of his ideas.

After serving out his term, he was turned over to his feudal lord to be treated as a feudal rebel. By the influence of his friends he was enabled to dwell in his own house, yet was under constant police surveillance. He now devoted his time to the education of youth and the keeping up of communication with a few reformers. The last act of his brief life was at hand. Some of his work was done, for the Dutch teachers had been admitted into Nagasaki and the country at large was keen for the new learning. Though the new order of thought had commenced, yet it was impeded and dangerously threatened by the power of the Shogunate. The ministry *discouraged* students from going to Nagasaki, and by spies, espionage, imprisonment, and death the ranks of the innovators were thinned. Yoshida endeavored to accomplish the death of the head of the ministry. He was suspected, seized, imprisoned, and executed. Though he failed in each particular enterprise, yet his friends and his pupils became leaders in the revolution; they are now men high in power and usefulness; they are the foremost in the acquisition of the knowledge and culture of the West.

Prior to the introduction of Western knowledge through Nagasaki and the Dutch, the *Chinese school* was the only acknowledged medical practice in this land, and at the present time it is the most extensive form of practice in the interior. This form of medical instruction and practice has not now the official sanction of the government, yet its precepts and influences are so deeply seated in the minds of the people and the court ladies that the heir-apparent, Prince Haru-no-Miya, and his mother were placed in the care of the most celebrated practitioners of the Chinese school last year. At present there is in Tokio a society of this school, who meet twice a week for consultation and conference. They instruct students and furnish them with proper certificates. Such practitioners, throughout the country, educate in their families, by precept and example, young men to succeed them and to propagate their ideas and methods.

The Dutch during their trade at Decima introduced to the knowledge of the Japanese many drugs and medicines and supplied them with books and instruments. When Commodore Perry visited this Land of the Rising Sun, the gifts of books on medical topics were most highly prized and most persistently sought after. Thus were the germs of the medical knowledge of the West implanted in this land.

Four years after the treaty of Kanagawa with Commodore Perry, Messrs. Ito and Totsuka, who had acquired from the Dutch a little knowledge of medicine, requested the Tokugawa government (Tycoon-ate or Shogun-ate) to establish a vaccination house, and thus to prevent an increase in the prevalent epidemic. In answer to this the Shu-to-kan, or vaccination house, was opened at Yeddo. At this time there were only eight gentlemen in the empire who possessed even a rudimentary acquaintance with modern medical science. These gentlemen collected 580 yen, and, aided by the government, the following year erected a new and enlarged office. At this institution, as a nucleus, gathered the men interested in medical advance. In 1862 a department for instruction was combined with that of out-door relief, and in that year the "Seiyo-I-Gakku-Jo" (Western medical instruction house) was acknowledged and aided by the government. The leaders in this movement, Oki, Ogata, Sagara, had been instructed at Nagasaki and Osaca. Their knowledge and their ability soon attracted to Yeddo more students than could be accommodated. Matsumato, a student of repute and ability, was sent at government expense to pursue his studies under the Dutch, and upon his return to Yeddo he became president of the school. At Nagasaki, in 1861, was established the first hospital in Japan.

Before the war of the restoration Nagasaki was the medical centre of Dai Nippon. Here labored the men from Holland—Siebold, Bodwine, and others—in the employ of the daimio of Hizen. To this city flocked the students from all parts of the southern section of the empire. Instruction was given, in Dutch, in geography and natural philosophy in a two years' course by the interpreters. After this preliminary training they were advanced to instruction under the Dutch physicians. Anatomy was taught by lectures, books, diagrams, and canine, with occasional monkey, dissections before the class. Human material was not to be had, or only rarely and secretly, on account of the deep-seated prejudices and superstitions of the people. Necropsies were extremely rare. Few only of the students ever used the dissecting-knife. Very much time and effort was devoted to materia medica and to the application of drugs. Instruction in medicine and surgery was almost entirely clinical, as very few of the students could read Dutch fluently and understandingly. Connected with the school was a hospital of one hundred beds, under the exclusive charge of the foreign physicians. Twenty students each day followed the professor in his visit. The advanced students resided in the hospital or became clinical assistants and attendants in the out-patient department. This course was designed to occupy six years. Most of the students remained only a short time, acquired a smattering, and then rushed off to all parts of the realm to put their little knowledge into immediate use. None were regularly graduated. Less than a dozen took an approximately full course. Among the latter are numbered the leading medical men of Tokio and Kioto of the present day. From the Nagasaki school have proceeded influences most powerful and penetrating for advancement throughout the length of this island empire. Stimulated by the example in the South, Dutch physicians were invited to Osaca and Tokio, where kindred medical centres were soon established. In 1870 a Dutch medical school was opened in Osaca.

The war of the Restoration demonstrated the urgent need of educated and skilful medical men for the military, naval, and civil services. The Mikado's government, at the end of the struggle, had upon its hands large numbers of sick and wounded. It had no hospitals, no medical stores, no organized medical service, no corps of educated medical men. Hospitals were established at the large sea-ports. Medical students, of even rudimentary acquirements, were pressed into the service to do surgeon's duty. Then was demonstrated the great value of the training of the Nagasaki school.

In 1867 there was erected at Tokio a large hospital for the army and navy, called Dai Biyo-in. Its management was placed in the hands of Dr. Willis, of England. It was not only a hospital, but became a school for clinical instruction. In 1869 this was combined with the "Seiyo-I-Gakku-Jo" under the name of "Dai-Gakku-Toko," with Messrs. Iwara and Sagara (educated at Nagasaki) as the chief physicians. During 1871, Drs. Hoffmann and Miller, under government contracts, came from Germany to assume charge of the Tokio hospitals, and to organize a medical college after the most approved modern methods. In the same year twelve of the most promising of the young medical men of the country were selected to proceed to Germany, and there to pursue a full and thorough course of study at the government expense. The following year a course of study—preparatory and advanced—was elaborated, and subsequently accepted and adopted by the government. It was determined that the language of the medical school should be German. German gentlemen were engaged, and the work of the preparatory department was entered upon at once. In the succeeding year the corps of instructors was increased by the arrival from Germany of the professors of therapeutics, of chemistry and physics, of natural history, and of languages (German, Latin, and Greek).

During 1875, Drs. Miller and Hoffmann returned to Europe, and their places were filled by Drs. Schultze and Laanggaard. In this year the college was removed to its present locality in Kaga Yashiki (the Yeddo residence of the daimio of Kaga). In October of this year the foreign departments of the Nagasaki and Osaca schools were removed to the "I-Gakku" at Tokio. In 1876 a new department of the Tokio school was established. It is designed to give instruction in foreign medicine through the Japanese language to a large and increasing body of students, who have not the time or the means to pursue the full course of the "I-Gakku." In this department sixty students are to receive free instruction annually, and the others will be required to pay a small monthly fee. 1877 will be memorable in the history of medical instruction in Japan, as the year in which the new college, the large foreign-modelled hospital, and the drug laboratory were opened for instruction. 1878 witnessed the last feature of general organization,—that of the transference of the medical department from the home department to the mombu-sho (educational department), under the title of "Dai Gakku-I-Gakku-Bu."

J. C. CUTTER.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Philadelphia County Medical Society was held at the hall of the College of Physicians, Philadelphia, June 9, 1880, Dr. John H. Packard, Vice-President of the Society, in the chair.

Dr. John B. Roberts presented an interesting specimen of a hairy cornea obtained from a calf. (See page 548.)

HYDROPHOBIA.

The discussion upon the pathology of hydrophobia, postponed from the last meeting, was opened by Dr. Chas. K. Mills, who by request repeated the main points contained in his paper read before the Society. He denied (1st) that hydrophobia is due to a special morbid virus; (2d) that it is accompanied by specific changes in the blood; or (3d) that it has any absolutely characteristic lesions in the central nervous system. He regarded the origin of the chief symptoms in most cases as capable of being explained on the view of peripheral nerve-irritation, set up originally in the wound, and transferred by reflex action to the medulla oblongata. Many cases called hydrophobic were also examples of recognizable and demonstrable disease of an entirely different character. Some cases resulted from fear or imagination.

Dr. Chas. B. Nancrede said that he had, with Drs. Cleemann and Geo. Rex, witnessed a fatal case of hydrophobia in a healthy child, and could not accept Dr. Mills's theory that the disease is entirely due to peripheral irritation and is not dependent upon a specific virus. This ancient doctrine has been disputed before, but lately one of the leading heretics has recanted, and now acknowledges the truth of the former view, that a poison is actually transmitted, to which the subsequent symptoms are attributable. The first difficulty in accepting the prevailing opinion is that so many persons are bitten who never get the disease; but a little reflection will dispose of this objection. To begin with, the dogs are not always mad that do the biting. Veterinary surgeons tell us that it is very difficult to decide whether or not a dog is actually hydrophobic. The avoidance of water is rare, convulsions are rarer, and strange behavior, wandering from home, and other well-known symptoms may be caused by tape-worm, which produces a disorder which simulates hydrophobia very closely. Clearly, those who are bitten by the latter will not have hydrophobia; and it has been said that out of thirteen hundred to fourteen hundred reported cases of supposed hydrophobia, only one in twenty-five ($\frac{1}{25}$) had the disease. Moreover, of persons bitten by the truly rabid dogs, not more than fifty per cent. will have hydrophobia, for all persons are not equally susceptible. Only from two-thirds to two-fifths of the cases of inoculation are successful in dogs, while in some instances they resist once, twice, or three times, and then succumb. In these cases there is the peripheral irritation of the bite, but no hydrophobia until the inoculation is successful. When a dog bites several persons in succession the danger decreases each time, for the virus becomes wiped off; and in just the same manner the wounds of the parts covered by clothing are less dangerous than bites upon the face or hands. The risk is also decreased, as experience has taught, where the wound is large and is followed by free bleeding; although in this case there must be more peripheral irritation than in the apparently trifling wounds that often cause hydrophobia.

In regard to the question of the ability of healthy dogs to communicate the disease, the speaker was surprised that Mr. Fleming had apparently supported this view. This error had been caused by the fact that hydrophobia has sometimes a long period of incubation, lasting eight months or even longer; but during this period the dog's bite is poisonous, and out of nineteen cases reported which were bitten during this incubation stage, eighteen were fatal.

There is no peripheral irritation apparent in these wounds; on the contrary, they readily heal; it is difficult to keep them open. There is a case on record where a veterinary student with a wounded finger made a post-mortem examination of a dog which had died the day before. Some months afterwards he died within twenty-four hours with all the symptoms of hydrophobia. Here is all the evidence of systemic infection by a specific poison; moreover, it has been proved that the saliva of a man suffering from the disease can give hydrophobia to a dog.

The speaker was unable to see how it could be due to peripheral irritation, for in those cases where the peripheral irritation is greatly increased by the application of the hot iron or caustic potassa the danger is decreased, for out of one hundred and thirty-four persons whose bites were cauterized promptly only thirty-three per cent. died, while of those in whom cauterization was neglected eighty-four per cent. died. Even delayed cauterization has been found useful in animals.

In the quality of lying dormant for a certain period hydrophobia does not stand alone. Syphilis is at first a purely local manifestation, but after a variable length of time it presents evidences of having contaminated the system. In the vast majority of cases the period of incubation of hydrophobia is about six weeks.

It is impossible to assume that hydrophobia is caused by fear or due solely to imagination, for out of three hundred and nineteen cases collected in France nine per cent. were under five years of age, where imagination could not be the cause. In the adult such may occur exceptionally, and even prove fatal from congestion of the brain; but it would be difficult to believe that many such cases occur. A large proportion of those bitten upon the face die, perhaps not so much because of its being the area of distribution of the fifth nerve as from the fact of its being an exposed portion of the body. In the analogous disease, rabies mephita, the skunk invariably bites some part of the face, and unless treated the resulting disease is certainly fatal.

That other disorders have similar lesions in the medulla oblongata may be accepted without denying the specific character of the poison of hydrophobia. In the diseases mentioned by Dr. Mills as presenting similar lesions, the same centres—*i.e., those of respiration and deglutition—are involved, and may consequently show similar lesions from similar convulsive disorders.* Syphilis and alcohol may cause similar lesions in the liver, but no one would contend that they are the same. Moreover, these other disorders are not invariably fatal, as is hydrophobia.

The importance of a correct understanding of the method of communicating hydrophobia is apparent in considering treatment.

In the so-called tetanus hydrophobica, which more closely simulates the true disease than any other, according to Rose the wound is *always* facial, while in the genuine disease it may be situated upon any portion of the body.

If there is a specific virus the wound should be cauterized, to destroy it and convert it into a simple wound.

There is a popular fallacy that where dogs are allowed to run at large—in India and in Turkey—there is no hydrophobia. This has been denied by good authority. Wherever there are dogs hydrophobia may occur. Dr. Nancrede also spoke of the occurrence of hydrophobia in many other animals whence the disease might arise, as well as the possibility of a slight abrasion upon the hand becoming inoculated unawares.

Dr. M. O'Hara mentioned a case of disease of the brain which had at one time hydrophobic symptoms. A case of general paralysis, after the ordinary symptoms of delirium of grandeur, stupor, etc., presented all the phenomena apparently of rabies. Very little was found at the post-mortem examination to account for the symptoms. He considered the theory of peripheral irritation as a very interesting one, and hoped that more light would be thrown upon it.

Dr. Nancrede remarked that it is well known that many cases of brain-disease present analogous symptoms, but none of them can communicate hydrophobia.

Dr. Richard A. Cleemann said that it is impossible to determine whether the lesions found after death are the primary effects of the poison, or the secondary nerve-lesions resulting from the convulsions. Nor can we at present declare the path taken by the poison. One thing which is strongly in favor of there being a specific virus is the fact that where the clothing covers the place bitten there is much less danger of hydrophobia, while at the same time the dog's teeth are more likely to inflict a jagged wound, which would cause more peripheral irritation. Nor can we always suppose fright, for in the case he had seen with Dr. Nancrede the wound was so small as to cause no alarm or excitement upon the part of the little patient or his mother. There is undoubtedly in hydrophobia extreme reflex irritability. In the case just referred to, merely attracting his attention was sufficient to produce the reflex action of the respiratory muscles.

Dr. R. Burns, of Frankford, was much interested in the subject and in the discussion. He was called to see a gentleman about forty-five years of age, who had a favorite dog, which had bitten him. The servant had refused to feed the dog because he thought something was the matter with the animal; the gentleman took the food to the dog, which snapped at his master's hand. The wound was not deep, but at the solicitation of those around him the gentleman came to the speaker's office, and the slight superficial wound was cauterized with nitric acid within three or four hours after the injury had been inflicted. The wound was clean, not ragged, and only passed through the integument. Some days after, the speaker was called to see the patient. The finger had healed up nicely, there was no irritation about it, and no complaint was made of it. The man was kept under observation, and it was noticed that his temperament passed through a change; he became more and more despondent and dejected; he became emaciated, his features were contracted, and he looked sick. This was spoken of by his friends, but he would not acknowledge it himself. About the ninth day after the accident he became delirious, had delusions, and was at times furious. There was such an intolerable secretion from the mouth, nose, and eyes, and he also exhaled such a peculiar odor from his body, as to lead to the opinion that some infectious disease or poison had been introduced into his blood. His whole room, including the floor and wall as well as the bed, was covered with a tenacious saliva tinged with blood, which he constantly expectorated. His flesh looked as if in a state of morbid solution, and he shortly afterwards died. Not long afterwards a farmer, who had a horse bitten by a mad dog, had an abrasion upon his hand inoculated while attending to the animal, which died of hydrophobia. The farmer afterwards died of hydrophobia, as did also some pigs which had been bitten by the same dog.

Dr. J. L. Ludlow believed that it was possible that there might be not only a specific virus but also peripheral irritation induced by the poison. Many cases die of fright. In all cases suspected to be hydrophobia we want more definite histories. He recalled a case where a woman was bitten by a pet dog; she was very nervous. He arrived just in time to prevent the husband from killing the dog, which remained under observation for a long while in perfect health. He also mentioned a case occurring at the Presbyterian Hospital about four years ago, where a man presented hydrophobic symptoms as a result of sunstroke. He completely recovered under ergot and bromide.

Dr. John B. Roberts had seen two fatal cases of hydrophobia in which no history of dog-bite could be obtained.

Dr. Packard desired to call attention to two or three points which, it seemed to him, had been not enough dwelt upon, if at all, in the discussion.

1. He would ask whether these were not established facts: that a certain chain of symptoms, of which Dr. Collins's case afforded a good illustration, and which constituted the disease known as "hydrophobia," was in many cases clearly traceable to the bite of a dog; that such dog was always affected with "rabies canina;" that such disease was always markedly distinct from tetanus or any other form of nervous disorder; and that not one case of recovery, after the development of the symptoms of hydrophobia, was on record.

2. Many of the cases of this peculiar disease have occurred in children who had never heard of hydrophobia, and in persons who had totally forgotten the fact that they had been bitten; some of them in persons who did not believe there was any such disease as hydrophobia. If it were a purely nervous affection it might occur from fright; but no such instance is known.

3. Facts upon record show that this disease is much less apt to follow bites inflicted upon portions of the skin protected by clothing, in which the teeth of the animal would be more or less wiped clean before puncturing the skin; and this, as well as some of the other features of the disorder, was in favor of the theory of a specific virus.

4. It is not possible to draw any analogy between this disease and the effects, for example, of rattlesnake-bites, since in the latter case the symptoms come on immediately, without the period of incubation always observed between the bite of the dog and the development of hydrophobia. Then, the rattlesnake is provided with a special apparatus,—a duct leading from the poison-gland to the tip or near the tip of the fang, and the gland or sac being compressed by the muscles closing the jaws so as, in the act of biting, to effect a hypodermic injection, as it were, of the venom.

Dr. Ludlow said that the peculiar symptoms of hydrophobia are principally those belonging to the nervous system, and similar appearances occur in other diseases. He cited a case of uterine disease that barked like a dog and had numerous convulsions, which was entirely cured by two intra-uterine applications of iodine and forced dilatation.

Dr. Nancrede said that nearly half of the cases bitten by rabid dogs die of undoubted hydrophobia, while similar wounds produced in other ways never cause hydrophobia.

Dr. W. R. D. Blackwood had seen both hydrophobia and tetanus, and recognized a distinct difference between them. He mentioned the case of a man whose hand was covered with the saliva from a mad dog when trying to separate two dogs which were fighting. His hand was not bitten, but he had his nails cut close, and there must have been absorption, for he died with hydrophobia. It seems evident that there must have been a virus. There was no peripheral irritation from the bite, because there was no bite. This view, that there is a virus, is also supported by another case that he saw while in camp. A rabid dog came into camp one day and bit two other dogs and a woman before he was killed. One of the dogs was bitten after the woman had been bitten. The speaker sent for a bottle of nitric acid and let it run over the wound on the woman's hand shortly after the accident. This set up a good deal of peripheral irritation, but she did not have hydrophobia, although both of the dogs did within seven weeks after the affair occurred. This was seven years ago, and the woman is still living.

Dr. Cleemann, in reference to a preceding speaker, said that in the case he had seen there had been no barking, and he thought that this was a popular notion that had been exploded. So far as he was aware, there was nothing in hydrophobia in man that is at all comparable to either barking or snapping.

Dr. M. O'Hara referred to another case of pseudo-hydrophobia in an old man sixty years of age, who called upon him a year ago to attend him during his closing hours, as he said that he knew he had hydrophobia. He had been bitten three weeks before on the hand. The wound was red and irritated, but there was no use in applying nitric acid. The man had anxiety, terror, and the premonitory symptoms of hydrophobia. In the course of ten days they all disappeared. There had been no expectoration and no convulsions, but there was fright and plenty of peripheral irritation.

Dr. William W. Welch recalled a case where hydrophobia was caused by the licking of the face by a pet dog; there was no wound, but merely absorption from a broad surface.

Dr. James Collins said that when chloroform first came into use it was hailed as a remedy for almost everything, and he remembered having heard a story of Professor Samuel Jackson, in one of his clinical lectures, reporting a case of hydrophobia cured by it in Camden. An old gentleman with a peculiar voice inquired, "Sam, did she bark like a dog?" "Yes," said Dr. Jackson. "Then she will have it again," said Dr. Chapman, as he stalked out of the room.

From the speaker's experience he could say that barking like a dog is not a symptom of hydrophobia, except in simulative cases. In the case reported it was not present. The woman certainly was not afraid of hydrophobia, and would scarcely believe that her sickness was attributable to the dog-bite. He had seen a case of tetanus a few weeks before, and considered it a distinct disease. In tetanus there is not the same restlessness that is seen in hydrophobia, where the patient walks up and down the room like a tiger in his cage.

Dr. Frank Woodbury said that since hydrophobia is known to arise spontaneously in dogs* it is possible that it may also originate spontaneously in man.† This is the only explanation of those cases in which true hydrophobia appears without proof of inoculation, unless we are prepared to assume that the evidence is always defective.

Dr. Mills, in closing the debate, said that some of the arguments advanced against his stand-points he believed were already sufficiently answered in his first remarks upon the nature of hydrophobia, and he did not wish to take up the time of the Society by repeating himself at too great length. In the haste of debate he might also pass unintentionally some of the points presented by the speakers. Notwithstanding the numerous and forcible arguments put forward during the evening, he still did not see sufficient reason to recede from the ground which he had taken, namely, that the cases called hydrophobic could probably all be accounted for by the view that the symptoms manifested were the result of peripheral nerve-irritation, of localized cerebral or spinal disease, or of psychical conditions.

Dr. Nancrede says that of those bitten by truly rabid dogs fifty per cent. have hydrophobia; but statistics in regard to this point are very conflicting, the percentages of different observers varying all the way from five to fifty. The resistance to inoculation, as has already been indicated, is as much an argument one way as the other: repeated attempts at inoculation mean repeated woundings of the animal. Why peripheral irritation in one case produces hydrophobia, and in another does not, I am not altogether prepared to say. The same thing, however, is observed with reference to traumatic tetanus and epilepsy. The character and position of the wounds, and the condition of the patient's system, probably have much to do with the result. He would again call attention to the fact that dogs supposed to be healthy so frequently have caused the reported cases of hydrophobia, which would seem to be strongly against the idea of a specific virus. According to this view, to cause hydrophobia the animal should always be mad. To say that dogs apparently healthy might be in the incubation stage of hydrophobia was at the best a mere assertion, wanting solid proof. In regard to the amount of evident peripheral irritation, he did not agree with Dr. Nancrede that the wounds were rarely irritable. Reports differ. In one of the cases being discussed the recognizable irritation was very great; in the other none was present. The fact that the face is less protected than other parts of the body may have something to do with the greater frequency of the occurrence of hydrophobia after bites in this region, but another reason, more in accordance with the peripheral irritation hypothesis, has been given. The fifth nerve has its distribution upon the face, and it has its nuclei and fibres of origin in the medulla oblongata and pons, in close proximity to those of the pneumogastric, hypoglossal, and other nerves concerned in hydrophobic manifestations; so that peripheral irritation of the fifth nerve would be more likely to be followed by hydrophobic symptoms than that of other parts of the body. The single observation mentioned where hydrophobia seemed to have been communicated to a student making a post-mortem examination on a rabid dog has not much weight. Much opposing evidence is on record. At Alfort, for instance, students having wounds have often held autopsies on rabid animals without any bad effects following. The published observations in regard to retro-inoculation from men to animals were not to the speaker very convincing; some experimenters had failed entirely. It is not necessary to believe, he would again remark, that cauterization, and like procedures, are beneficial because they destroy a virus; such measures may act in other ways,—as nerve-stretching in tetanus, as cutting out a scar in reflex epilepsy, etc. Large wounds, strong caustic applications, and the like, for some reason not clearly known, are less apt to cause tetanus, epilepsy, or hydrophobia. Molecular irritability in a nerve is as likely to be set up by a small as by a large wound. It is true that the smallest wound might allow the entrance of a virus; but the smallest wound might also give rise to such irritation as to lead to tetanus, epilepsy, or hydrophobia. The fact that hydrophobic symptoms occur in children with such frequency after dog-bites may be largely due to the greater impressionability of the nervous centres in the young than in adults. That other disorders have similar central lesions to those found in the hydrophobic cases may not prove anything positively with reference to the specific character of hydrophobia, but calling attention to this fact serves to indicate the great liability to mistaken conclusions.

A strong common-sense argument is that advanced by one of the speakers, who wishes to know if in any other disease we have the same chain of symptoms as in hydrophobia. In the second case referred to in the paper, post-mortem examination showed chronic lesions, such as are found in pachymeningitis and other chronic alterations in the cerebro-spinal tract. The changes may have been secondary or may have caused the symptoms.

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* Fleming, Veterinary Journal, London, 1878. See also Dr. Kane's narrative of Arctic Voyages.

† Case reported by M. Guillery, Bulletin of Belgian Academy, No. 8, 1871, La Tribune Médicale, January 21, 1872.

In a case of diffused sclerosis, long under observation at the Philadelphia Hospital, the patient was suddenly seized with convulsions, in which he died. The spasms involved terribly the muscles of deglutition and respiration. Cases of localized tubercular meningitis, and in fact any lesions affecting certain parts of the pons and medulla oblongata, may give rise to hydrophobic symptoms. How were Dr. Roberts's two fatal cases of hydrophobia, without the history of dog-bite, to be explained on the blood-poison hypothesis? Cases of hydrophobic tetanus had been referred to in the general remarks. Hydrophobic symptoms, so called, occurred independently of the bites of animals much oftener than most physicians supposed. Kirchoff (*Berl. Klin. Wochens.*, No. 25, 1879) reports the case of a woman who fell with her face into some briers and died of hydrophobic and tetanic symptoms.

Dr. Henry Leffmann then read a

NOTE ON BISMUTH SUBNITRATE. (See p. 547.)

On motion, the thanks of the Society were tendered to the lecturers for their interesting remarks. F. W.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JUNE 10, 1880.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Specimens (supra-renal capsules, kidneys, and enlarged lumbar glands) from a case of Addison's disease. Presented by Dr. FREDERICK P. HENRY.

THE clinical history of this almost typical case of Addison's disease is very meagre in details, owing to the fact that I saw the patient, a female, æt. about 50, but once before her death. The facts obtained are, however, of considerable interest. The woman was admitted to the Episcopal Hospital on the afternoon of May 26, and died on the morning of May 28. While examining her on May 27 I was struck with the peculiar sallowness of her complexion, and asked her whether she had been as dark-colored when in health. She replied that her skin had darkened in color since her illness, which dated from August, 1879. The color could not by any stretch of imagination be compared to *bronze* of any kind, but rather resembled the hue of jaundice in slight amount occurring in a person of dark complexion. The patient was naturally a brunette. The conjunctivæ were natural in color, and although in describing the color of the skin I have spoken of jaundice, I entertained no suspicion of the presence of that affection. As is not infrequently the case in this remarkable disease, many cases of which are of traumatic origin, the patient was able to assign a definite period to the commencement of her illness. The attack began in August, 1879, with weakness and pain in the back immediately following the occupation of weeding her garden. These local symptoms continued with greater or less intensity ever since, but the pain was latterly most severely felt in the left lumbar region, in which situation there was also a great degree of tenderness on pressure. About three months before admission she had had a violent attack of enteralgia lasting for several days, the pain being greatest in the hypogastric and right and left inguinal regions. The woman was thin as to the arms and thorax, but not at all emaciated, and the abdomen was full and round, with considerable fat in its walls. The tongue was slightly coated. She suffered from occasional vomiting, and the bowels were, as a rule, constipated. The abdomen was more or less tender throughout, the tenderness increasing as the left lumbar region was approached. There was some cough, and physical examination of the thorax revealed slight dulness at right apex before and behind, prolonged expiration, and increased vocal resonance. The act of sitting up in bed while the thorax was examined was followed by considerable exhaustion. The pulse was soft and compressible, though full. The general intelligence was good. Sleep was poor. The pupils were natural.

Examination of the urine served rather to mislead. It contained blood-corpuscles and uric acid crystals; the latter visible to the naked eye in the form of red-pepper grains, and under the microscope in the form of rosettes. These characters of the urine, taken in connection with the fixed pain in the side and the severe paroxysm of abdominal pain three months before, led to the conclusion that the case was one of nephrolithiasis.

On visiting the hospital on May 28 I was surprised to hear of the patient's death, as there was nothing in her condition the day before to indicate the near approach of a fatal termination. I may say in this connection that this sudden mode of death in Addison's disease is not infrequently met with, and is referred to by Wilks and Moxon,* as follows: "The process is chronic, and lasts often several years. The patients die generally slowly by asthenia, but some have gone off suddenly by rapid sinking and syncope." Greenhow refers to the manner of death in almost the same words, so that it is presumable that he was quoting from Wilks and Moxon, or *vice versa*. He says,† "Death takes place by asthenia, and sometimes, at the last, almost suddenly, apparently in syncope."

At the autopsy, quite a thick layer of fat was found in the connective tissue of the abdominal walls. The blood was fluid, and on removing the liver it poured out of the inferior vena cava in large amount. There was none of the dryness and translucency of tissue so constantly met with in severe cases of anæmia. In the mesentery of the small intestine, in the meso-colon, and in the gastro-hepatic omentum, a few miliary tubercles were found; also on the peritoneal surface of the first portion of the duodenum. The mesenteric glands were greatly, and the lumbar glands enormously, enlarged. Along the vertebræ these latter were firmly united by dense masses of connective tissue in which the solar plexus and semilunar ganglia must have been imbedded, for a careful and persevering attempt to dissect out these structures was unsuccessful. The degree of this overgrowth of connective tissue, in connection with the enlarged glands, may be estimated to some extent when it is mentioned that I found it impossible to remove the pancreas except in fragments. This being the case with regard to so prominent an organ, it is not to be wondered at that the semilunar ganglia and solar plexus could not be found. Both supra-renal capsules were greatly enlarged, and hardened. They were firmly adherent to the neighboring tissues through the medium of dense connective tissue, and were removed with much difficulty. There was no greater irregularity of their surfaces than could be attributed to ruptured adhesions. The centres of the capsules, particularly of the left, were paler in color and softer than the surrounding portions, which gradually shaded from a pale red about the slightly yellowish centre, to a deep red at the periphery. The naked-eye appearances were such as to indicate that the proper tissue of the organ had been replaced by a new growth of a fibroid structure. All distinction between cortical and medullary substance, and all trace of a central cavity, were obliterated. In order to show the comparative relations of size and situation, the capsules were not separated from the kidneys, and consequently there is no record of their weight. It is, therefore, difficult to convey an idea of their size. Both capsules retained their normal cocked-hat shape. The left, the larger, was closely adherent to the kidney, which was of normal size, and was estimated by those who saw it to be fully its equal in bulk. The right was looser in its attachment to the kidney and much smaller. It was calculated by one of the members of the Society, a member of the Committee on Morbid Growths, that the left capsule was twenty and the right five times larger than normal. The kidneys and spleen appeared normal. At the apex of the right lung was a slight degree of induration and some puckering of the surface. The induration was very superficial. Neither tubercle nor cavity was formed. Similar but still slighter changes were found in the left apex.

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* Lectures on Path. Anat., Phila., 1875.

† Croonian Lectures on Addison's Disease.

In the opening sentence of this paper I spoke of this case as being *almost* typical; and this expression needs some explanation. By a typical case is meant one in which the sole naked-eye lesion is in the supra-renal capsules. In this sense, the case which I reported in vol. v. of the Pathological Society's Transactions is a typical one. It must be borne in mind, however, that there is overwhelming evidence to prove that although, in a typical case, the disease begins in the capsules, yet many of the symptoms, perhaps among them the peculiar discoloration of the skin, do not arise until the neighboring plexuses and ganglia of the sympathetic are involved in the inflammation. The changes in these organs are often only to be perceived with the aid of the microscope. Although in this definition of a typical case I follow the high authority of Greenhow, who has collected one hundred and one cases in which there existed no other organic lesion than that of the capsules "which could be of the slightest importance," nevertheless I think it is extremely doubtful whether the coexistence of tuberculosis in any degree should forbid the classification of a case under the head of typical. According to Wilks and Moxon, of fifteen cases exhibited at the London Pathological Society, twelve showed more or less tuberculous disease of the lungs; in two the lungs were not examined; and only in one case are they said to have been found healthy. The enlargement of the lymphatic glands cannot be regarded as a complication unless as regards its unusual degree, for Greenhow states that in "almost every case" he had seen there were some enlarged lymphatic glands in the "dense connective tissue surrounding the capsules." He also states that "the mesenteric and retro-peritoneal glands in the neighborhood of the capsules are generally enlarged." Enlargement of the spleen has been reported in a number of genuine cases, but was not found by Greenhow in any of his own.

For proof that the melasma supra-renale originally described by Addison is dependent upon a uniform lesion, and for an exact description of that lesion, I refer the reader to Greenhow, both for the sake of brevity and in the hope that thereby some may be induced to read his admirable monograph upon Addison's disease.

As showing the rarity of this affection, I may refer to the fact that in the eight volumes of the Transactions of the Pathological Society of Philadelphia there is but one case recorded, and that was exhibited by me in 1874.

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MEDICAL STUDENTS IN LONDON.—The following table gives the number of students at each of the London Medical Schools: St. Bartholomew's, 86; Guy's, 81; University College, 71; St. Thomas's, 35; London Hospital, 33; Charing Cross, 32; St. George's, 30; King's College, 26; St. Mary's, 24; Middlesex, 24; Westminster, 19; London Women's School, 9.

MISCELLANY.

THE present volume, just received, of "Wood's Library of Standard Medical Authors" consists of a reproduction of the third edition of Savage's well-known "Surgery, Surgical Pathology, and Surgical Anatomy of the Female Pelvic Organs." It contains thirty-two very well executed plates, besides twenty-two wood engravings.

OBITUARY.—In the recent death of Mr. S. Messenger Bradley, at the early age of 39, the medical profession of England has lost one of its prominent members and a man of uncommonly versatile talent. Mr. Bradley was perhaps best known in this country as the editor of the *Liverpool and Manchester Medical and Surgical Reports*, although known also as the author of a large number of works and papers on medical subjects, the latest of which, "On the Injuries and Diseases of the Lymphatic System," had only recently been published. He was a popular lecturer, and was also something of an artist, besides possessing social qualities of a high order.

THE death is announced of the veteran toxicologist, Alfred Swaine Taylor, M.D., F.R.S., whose name is indissolubly connected with the chief advances in modern jurisprudence. Dr. Taylor was a graduate of St. Andrew's, in Medicine, Fellow of the Royal College of Physicians, Member of the Royal College of Surgeons, and Licentiate of the Society of Apothecaries. He was also a Fellow of the Royal Society. At one time he occupied the chair of Medical Jurisprudence at Guy's Hospital. He is best known, however, and will long be familiar to the student through his matchless work on the "Principles and Practice of Medical Jurisprudence," and the hand-book on "Poisons," which forms part of every English medical student's library.

EFFECT OF PODOPHYLLIN ON THE SENSE OF TASTE.—A correspondent of the *Lancet* calls attention to the singular effect of podophyllin on the sense of taste when exhibited in small repeated doses. Patients have declared that they could not distinguish one food from another during the treatment. A gentleman who had taken it in doses of one-thirtieth grain three times daily found, after three doses had been taken, his tongue with the neighboring glands greatly swollen, profuse salivation, and entire loss of taste.

NOTES AND QUERIES.

PARIS, July 2, 1880.

TO THE EDITOR OF THE *Philadelphia Medical Times:*

SIR,—I received, a few days ago, the *Philadelphia Record* of June 11. The first page of this paper was almost wholly occupied with an article entitled "Another Doctor-Mill Exposed." The subject is one which will, I think, bear some remarks. In the first place, I believe there are very few places in the world outside of the United States where such a state of things would be possible. I doubt if there is another such place where degrees are obtained with such ease as with us. And I doubt still more whether there is another place where institutions for granting degrees can so readily obtain charters. The *Record* states, "Our good city was covered with disgrace;" and it might just as truly have said that every Philadelphia graduate was likewise covered with disgrace. Having studied in London, I have often been asked where I came from; I answered Philadelphia, and I remember to have been told, more than once, that that was where degrees could be bought and sold. Sometimes I was asked whether we had any good colleges there. Some of the men knew of others who had degrees from Philadelphia, but the possessors of those degrees had never been to America. I had not thought that the operations of these *lawfully-chartered* institutions were so well known abroad, but I found, alas! to my cost that they were. The granting of charters seems to be a little more serious thing abroad than it does at home. In Great Britain the thing can only be done, I believe, by an Act of Parliament. Contrast that with the granting of a charter for a medical college by a *Judge of the Court of Common Pleas*. Imagine a diploma from such a source giving the right to practise almost anywhere in the United States,—I say almost, because I have heard that there are some States who have the courage to accept no examinations but their own. The chartering of a special college for the teaching of electricity seems also, to me, to be based on erroneous grounds. Was it thought that the study of medical electricity had been so neglected in our regular schools that it was necessary to inaugurate a separate college for its proper teaching? To my mind, it would seem as reasonable to establish a college for the sole purpose of teaching the proper method of administering calomel. They are both therapeutic agents, and both receive their proper attention in the regular medical course. There is no necessity for establishing separate institutions for their especial benefit.

The remedy for these evils can only be obtained, I believe, by State legislation. As long as a city has the power to set afloat such institutions as our city has heretofore distinguished itself with, so long will reform be impossible. Instead of students being examined by their own teachers, who are naturally averse to rejecting them, it would be better to have a State examining board who would examine in succession at the different educational institutions. This uniformity of examinations having been secured, the requirements could be made more high. The examinations should also be held in public, as they are in France. This would give additional security. Everybody admitting that there already exist far more medical colleges than there is any necessity for, any further granting of charters should be prohibited.

G. G. D.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 18 TO JULY 24, 1880.

SIMONS, J., LIEUTENANT-COLONEL AND SURGEON.—Granted leave of absence for one month. S. O. 118, Department of the East, July 15, 1880.

GREENLEAF, C. R., MAJOR AND SURGEON.—Granted leave of absence for four months. S. O. 158, A. G. O., July 20, 1880.

WINNE, C. K., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Brady, Mich. S. O. 116, Department of the East, July 12, 1880.

MOSELEY, E. B., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for twenty days. S. O. 66, Department of the Platte, July 17, 1880.

PRICE, C. E., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for two months, with permission to apply for two months' extension. S. O. 154, A. G. O., July 15, 1880.

COMEGYS, E. T., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month on Surgeon's certificate of disability, with permission to go beyond the limits of the Department. S. O. 135, Department of Texas, July 8, 1880.

GIBSON, R. J., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Having reported at these Headquarters, ordered to report to the Commanding Officer, Fort Leavenworth, Kansas, for temporary duty. S. O. 155, Department of the Missouri, July 19, 1880.

TAYLOR, A. W., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Having reported at these Headquarters, is assigned to temporary duty at Fort Supply, Ind. T. S. O. 155, c. s., Department of the Missouri.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 14, 1880.

ORIGINAL COMMUNICATIONS.

ON THE PHYSIOLOGICAL ACTION OF CHAMÆLIRIN.

BY FRANCIS V. GREENE, M.D.,
U. S. Navy.

IN a paper by the writer on the subject of the glucoside chamælirin, the bitter principle of the Chamælirium luteum, Gray, read at the pharmaceutical meeting of the Philadelphia College of Pharmacy, April 16, 1878, and afterwards published in the May number (p. 250) of the *American Journal of Pharmacy*, before giving the results of the chemical investigation of the root of this plant, brief reference was made to what was known in regard to its therapeutic action. As there stated, although the recorded testimony in regard to the efficacy of this root in the treatment of a certain class of diseases is not very extensive, still it is of such a character as to render it important that further investigations should be made to establish or disprove its claims as a curative agent of considerable value. The United States Dispensatory devotes a few lines to the Chamælirium luteum, describing it botanically under its old name of Helonias dioica, and stating that it had been found useful in colic, and in the treatment of leucorrhœa and atony of the uterus. In King's American Dispensatory, the author, after giving a detailed description of the plant, states that its root possesses the properties of a tonic, diuretic, and anthelmintic. In excessive doses it is said to produce emesis, and when used in the fresh state is mentioned as acting as a sialagogue. The reputed action of this root as a uterine tonic is, however, the most interesting and important point claimed by Dr. King and other "eclectic" practitioners, as, in consequence of this supposed property of removing abnormal conditions and imparting tone to the reproductive organs, it has been somewhat extensively used in the treatment of leucorrhœa, amenorrhœa, and dysmenorrhœa, and likewise with a view of correcting the tendency to repeated miscarriage. The results obtained from the use of this agent by Dr. Braman (*Boston Med. and Surg. Jour.*, xi. 416), and the testimony still more recently adduced by E. H. Woodbury, M.D. (*Southern Medical Record*), who reports most favorably as to its value in the treatment of leucorrhœa, amenorrhœa, and dysmenorrhœa, certainly tend strongly to prove that the conclusions previously arrived at were correct, and that the chamælirium does really act as a uterine tonic.

As no chemical investigation of the chamælirium luteum had been made, and as we therefore possessed no knowledge of the principle or principles producing the observed effects on the economy, an inquiry in this direction seemed desirable, as being likely not only to afford a clue to the therapeutic action of the drug, but likewise to establish whether the plant itself was as closely allied chemically, as botanically, to the veratrums, with which it had been originally classed by Linnæus, under the name of the V. luteum.

From the article referred to above, and a second paper on the same subject, published in the *American Journal of Pharmacy*, October, 1878, p. 465, it will be seen that the result of my chemical investigation of the chamælirium root was the extraction, in a pure state, of a very bitter, white substance, of a resinous appearance, which proved to be a glucoside, and for which I proposed the name *chamælirin*, to distinguish it from helonin, which, although styled by the "eclectics" a neutral substance, is merely, according to King, a "hydro-alcoholic extract" of the helonias dioica. In addition to chamælirin, a free acid, a fatty acid, glucose, starch, and tannic acid, giving a greenish precipitate, with per-salts of iron, were incidentally recognized as being present in the chamælirium root. No indications were afforded at any time during the various experiments that it contained an alkaloid.

The following is a brief outline of the method adopted in extracting the chamælirin. The powdered chamælirium root was exhausted with distilled water, the filtered solution evaporated on a water-bath to one-half its bulk, calcined magnesia added, and the evaporation continued until the mass was thoroughly dry, when it was powdered and extracted, first with ether and then with hot absolute alcohol. The alcoholic solution was then evaporated to dryness, the residue, a resinous mass, of a light yellow color, dissolved in distilled water, purified animal charcoal added, the mixture, after violent agitation, evaporated to dryness, and the dried mass extracted with hot absolute alcohol. The alcohol was then driven off, leaving the chamælirin in a state of purity.

As thus prepared, chamælirin is a light, very bitter substance, somewhat resinous in appearance, and of a white color. It can be readily reduced to a powder, which adheres to the fingers after the manner of a resin. It is freely soluble in hot and cold water and alcohol, very sparingly soluble in ether, and quite insoluble in chloroform, benzine, benzole, and bisulphide of carbon. When a minute quantity of it is brought in contact with a few drops of concentrated sulphuric acid there is a play of colors from an orange to crimson, followed by a brown, changing to a rich green, passing to a purple, which fades away, leaving a dark green, insoluble mass in the centre of a colorless liquid. With Fröhde's reagent no play of colors is produced, but it dissolves in it with a yellowish-brown color. It dissolves in nitric acid, forming a clear canary-yellow solution, which does not change on standing. Hydrochloric acid also dissolves it, the solution gradually assuming a rich wine- or peach-red color. This color reaction, which is characteristic of chamælirin, is best observed by adding a considerable quantity of the acid to a small portion of the substance contained in a test-tube. A solution of chamælirin produces no effect whatever on test-papers. It is not precipitated from its solutions by either tannic acid or acetate of lead, and does not yield precipitates with potassio-mercuric iodide, iodine in iodide of potassium solution, potassio-cadmic iodide or metatungstic acid; phospho-molybdic acid, however, forms a precipitate with it, which dissolves in ammonia with a blue color that disappears on applying heat. The cupric is not reduced by it to the cuprous hydrate even by prolonged boiling. When, however, a small quantity of chamælirin is boiled with dilute hydrochloric acid, and this solution, after being neutralized with bicarbonate of soda, is added to Fehling's solution and the mixture boiled, the copper is quickly reduced, thus proving that it is a glucoside.

The aqueous solution of chamælirin froths, when shaken, in the same manner as that of saponin, which renders it probable that it is very similar to the last-named substance, and the other glucosides possessing the same property. Its free solubility in absolute alcohol, and its reactions with the mineral acids, prove, however, that it is not identical with any of these bodies.

As the analysis of the root of the chamælirium had shown that it did not contain any alkaloid or other principle, except chamælirin, that might be supposed to produce the effects on the economy that had been observed as resulting from the administration of this drug, a number of experiments were made to determine the physiological action of this glucoside, the result of which has been to prove that it is a cardiac poison, and that it produces its effect by virtue of a depressing influence on the pneumogastric centres, and likewise by more or less completely exhausting or paralyzing the heart-muscle by excessive stimulation of the intra-cardiac ganglia. This conclusion has been arrived at not only from numerous experiments on frogs, but also from the investigation of the toxic action of this substance on the dog and rabbit, the opportunity for studying the subject in this connection having been kindly afforded me by Dr. B. F. Lautenbach, in whose laboratory at the University of Pennsylvania the experiments on these animals were performed.

The effects produced by injecting from one-half of a grain to one grain of chamælirin into the thigh of a frog are paralysis of the injected limb, a marked impression on the respiratory function, gradual impairment and loss of voluntary motion, and, finally, death, free from convulsions, in from one to two hours. On examining the hearts of the frogs that had died from the effects of an injection of this substance, either into the thigh or abdominal cavity, they are usually found motionless, with the ventricle filled with blood; in some instances, however, they are empty and flaccid. In those cases where the rhythmic action continues in the auricles after death, the irritation, produced by the instrument in freeing the heart from the pericardium, causes the blood to be expelled from the ventricle, with re-establishment of the rhythmic action in this cavity, thus showing that the circulation has ceased before the contractility of the muscle of the ventricle has been entirely destroyed. If, after section of the medulla oblongata of a frog, the heart be exposed, and a few drops of the solution of chamælirin be allowed to fall upon this organ, its action becomes more energetic, and the ventricle ceases to act during systole. In the curarized frog, an injection of one grain of the aqueous solution produces at first slowing of the pulse, with lengthening of the ventricular systole; but as the action continues, the ventricular contractions become weaker, and the heart finally stops in diastole. On removing the hearts of live frogs from the body and partially submerging them in a solution of chamælirin, the contractions of the organ are sensibly increased in number and force, the ventricle no longer contracting as a single muscle, but irregularly giving rise to a vermicular or peristaltic movement similar to that observed by Eulenberg and Ehrenhaus, as produced in hearts of frogs treated in like manner with a solution of digitalin. The same peculiar action of the ventricular muscle, which has also been noticed by Stephenson and Fagge and Dr. Nunnelly, in the hearts of frogs subjected to the influence of digitalin, was observed both in the curarized animals, and in those where the solution was dropped upon the exposed heart *in situ*, after section of the medulla.

If a frog be etherized, the brain exposed, and about one-third of a grain of chamælirin in solution injected into the hemispheres, violent clonic spasms of the whole body are immediately produced, together with tetanic spasms, giving rise to well-marked opisthotonos, followed by death in a few seconds. As, at the time of my experiments, Dr. Lautenbach had already announced that saponin injected into the brains of mammals would produce paralysis, this fact was communicated to him, when he tried the effect of an injection of a solution of saponin into the brain of a frog, and found that it also caused convulsions of a similar character to those produced by chamælirin. Although the importance of the production of convulsive movements in the above manner is very much lessened, on account of the small size of the brain in the frog, and the consequent impossibility of deciding as to what particular part of the organ was affected by the injection, still their manifestation, under these circumstances, would seem to show that, with carefully-made injections of saponin and chamælirin—and probably of other frothing glucosides—into the brain of a larger animal, we may yet be able to differentiate the functions of various parts of this organ.

In experimenting on the etherized dog, it was found that after the injection of two grains of chamælirin in solution into the femoral vein the pulse rose from twenty to twenty-eight beats in the ten seconds, while the blood-pressure was but very slightly increased. There was also considerable dilatation of the pupils. Ten minutes later five grains more were injected, when the pulse fell to twenty-two, rising again to twenty-six; no marked change was noticed in the blood-pressure. The pneumogastrics were then divided, and on exciting the peripheral end of the nerve by a weak galvanic current, it was found that inhibition was produced. Two additional injections of two and a half grains were made at intervals of about two minutes, and the same current still found to produce an inhibitory influence upon the heart. An injection of three grains into the carotid artery of the dog failed to produce any convulsive movements. In the etherized rabbit, the pneumogastric nerves were divided, and one grain of chamælirin injected into the jugular vein. No change took place either in the blood-pressure, or in the rate of the pulse. On injecting one and a half grains more after the lapse of about three minutes, very marked tetanus was produced, with considerable rise in the blood-pressure, which was due, however, to the muscular contractions, and not to the effects of the chamælirin.

Although it is difficult to positively attribute the toxic effect of any agent to the influence exerted by it on one or more of the three systems (Von Bezold) of nerves by which the actions of the heart are controlled, it would appear from these experiments that the lethal effect of chamælirin is due partly to the depressing influence exerted by it on the pneumogastric nerves, but more particularly to its stimulation of the intra-cardiac centres, which primarily occasions the ventricle to contract more forcibly, and lengthens its systole, but eventually exhausts its muscular contractility, thus producing stoppage of the heart in diastole. As far as regards the blood-pressure, it would seem, from the experiments on the dog and rabbit, that chamælirin exerts very little, if any, influence on the vaso-motor system of nerves. That it affects the cerebro-spinal system is apparent in the production of paralysis and convulsive movements. From the effects manifested by chamælirin, when given in quantities sufficient to develop its toxic action, it may be inferred that where the drug is administered in medicinal doses, the action of the chamælirin may be so moderate as to merely cause a slightly stimulating effect upon the heart, having for its result simply an improved condition of the circulation. I am inclined, moreover, to the opinion that the benefit derived from the use of the chamælirium root in diseases of the reproductive organs and in atony of the uterus depends on the influence exerted by its glucoside on the sympathetic system of nerves, whereby the excito-motory and excito-secretory functions of this system are brought into play in such manner as to affect favorably the muscular structure of the uterus, with consequent improvement in the condition of the secretions from this organ.

Whilst still engaged in this investigation, I became aware of the fact that Dr. Lautenbach had ascertained that a solution of saponin dissolved the red corpuscles of the blood, and, consequently, in order to determine whether chamælirin possessed the same property, a small quantity of a solution of this substance was added to some human blood and the mixture examined microscopically with a $\frac{1}{10}$-inch immersion objective, when it was found that the red corpuscles had entirely disappeared. The experiment was then made in such manner as to bring the solution in contact with the blood after it had been properly focussed, when the disks could be seen fading away, one after another, as they were brought in contact with the solution, without undergoing any change of contour. By using a Holman's current-slide, with a $\frac{1}{20}$-inch immersion objective, this action was not only rendered more apparent, but the additional fact ascertained that the white corpuscle was also affected by the solution, for, on watching one of them attentively, it was found to become globular in form, while the granular contents assumed an extraordinary degree of activity, and finally escaped from the corpuscle. As the addition of water to the blood produces a similar change in the white corpuscle, causing it to swell up and become globular, and also develops the Brownian movement of the granules, it was determined, in order to eliminate any effect that might be due to this liquid, to ascertain what would be the effect of adding the chamælirin in dry powder to the blood. Accordingly, a minute quantity of this substance in powder was added to a drop of blood, and, after slightly stirring with the point of a needle, the mixture was examined under the microscope, with precisely the same results, in regard to both the red and the white corpuscles, as had been obtained when the aqueous solution had been used. The following extract from a note received by me from Professor Joseph Leidy will be seen to be strongly corroborative of my opinion that this substance actually dissolves the red corpuscles, and destroys the white by causing rupture of their cell-walls: "I watched the action of the chamælirin on the blood. The red corpuscles truly appear entirely to dissolve away. Without change of form or size, they gradually grow paler and paler, and completely fade from view, so that I afterwards could not detect the slightest trace of them. The white corpuscles withstand the action of the substance longer, finally burst and diffuse their granular contents, which even after some time remain undissolved. As the chamælirin acts on a drop of blood, the red disks are seen to dissolve away from the edges, leaving the colorless ones considerably outside the boundary of the drop."

As it is known that acetic acid apparently dissolves the red corpuscle, which may, however, be faintly brought again into view by the addition of tincture of iodine, before finally deciding whether or not chamælirin really dissolved the blood-disks, or, by merely abstracting the coloring-matter, only rendered them so transparent as not to be visible, it was deemed necessary to ascertain if, by the addition of any staining material to the blood-drops from which the corpuscles had disappeared, these bodies could be again recognized. With this view the various solutions of carmine and the aniline colors, as well as tincture of iodine and osmic acid, were successively used; but as none of these materials brought anything into the field that had the faintest resemblance to a blood-disk, it may be fairly concluded that these bodies are entirely disintegrated by the action of the chamælirin.

I have also ascertained, by experimenting in the same way with digitalin and senegin (polygalic acid), that these substances also act upon the blood-corpuscles in a similar manner: it is highly probable, therefore, that the frothing glucosides in general possess this solvent property.

ON OPTICO-CILIARY NEUROTOMY —WITH A CASE.

BY SWAN M. BURNETT, M.D.
Ophthalmic Surgeon to the Central Dispensary, Washington, D.C.

THIS conservative operation, recently brought so prominently forward in ophthalmic surgery, offers such important advantages that its firm establishment as a justifiable and reliable operation is in every way desirable.

Of course, its chief merit consists in the fact that it allows the patient to retain his eye with unimpaired movements, which, to rich and poor alike, is a matter of greatest moment. But dependent upon this is another fact, which, it seems to me, is a most powerful argument in favor of the operation. All surgeons are but too well aware of the great difficulty often experienced in getting the permission of the patient or his friends to enucleate an eye. If there be indications which are, to the surgeon, unmistakable for the removal of the organ, he of course feels it his duty to enforce his opinion in the firmest manner; but there is a number of cases where the surgeon himself is "almost persuaded," but not quite, and does not feel justified in saying, "In order to save your other eye this one must be removed."

It is precisely in such cases as these that optico-ciliary neurotomy has its highest claim. In these cases of doubt the surgeon would much more readily advise, and the patient much more readily accept, an operation where there is so much less prospect of disfigurement than in enucleation, particularly as enucleation could be subsequently performed if found necessary. The "taking out of an eye" is looked upon by the laity with a kind of horror, and they only accept it when there is no other alternative. And it is my opinion that in the aggregate we would save a larger number of eyes threatened by sympathetic ophthalmia, by this operation, than by enucleation, even if the percentage of successes should be no higher than it promises at present, for the simple reason that we would have the operation done on a larger number of dangerous eyes. It is a justifiable hope, however, that with increase of experience and improvements in methods the percentage will be increased.

What is most needed at the present time are data, based on statistics as full and fair as we can get them. It is with the object of furthering this end that I offer the humble contribution of one case.

M. J., a negress of 41 years, applied at the Ophthalmic Division of the Central Dispensary, in January, 1880, for relief of a painful and inflamed left eye. It "had gone out with a cold" some years before, and had been periodically inflamed and painful ever since. The cornea was opaque almost throughout its whole extent, and there was a sunken cicatrix at the upper inner corneo-scleral junction. There was not even perception of light. The eye was somewhat sensitive to touch, but there was, at that time, no trouble with its fellow. She was given anodynes and atropine, and ordered to keep quiet and use hot applications. Under this treatment the symptoms abated but did not entirely disappear.

On the 16th of March she presented herself with all the symptoms of sympathetic irritation in her *right* eye. There was intense photophobia and lachrymation with pain, but no clearly-pronounced inflammation anywhere. The optic disk, which was distinctly visible, was perfectly clear. The vision was very much reduced. The left was inflamed and exceedingly tender to touch, particularly at the upper ciliary region. It was decided to try optico-ciliary neurotomy. She was accordingly etherized, and the external rectus taken upon a hook and a suture passed through it not far from its insertion. The tendon was then divided between the suture and the globe. Curved strabismus-scissors were then passed backward and the optic nerve divided. The globe was turned around, and the tissues on its posterior surface severed and the sclerotic laid bare. The ciliary nerves were, as I thought, all divided. After the hemorrhage had been stopped the globe was replaced and the external rectus brought forward and united. After she had come from under the influence of the anæsthetic the sensibility of the cornea was carefully tested. It was found that some feeling still remained at the inner side of the cornea. The external rectus was again detached and the tissues at the back of the globe still more extensively divided, particularly at the inner side. On testing the cornea now it was found that no sensibility remained at any point, and after the wound had been thoroughly cleansed the tendon of the external rectus was once more brought forward and united. There was some exophthalmia, but the eye moved with considerable freedom. A light bandage was rather firmly applied, and cold applications ordered.

About an hour after I left the Dispensary she was seized with a violent fit of vomiting, and felt, as she expressed it, "the vein give way." The hemorrhage from the eye was considerable, the blood running through the bandage on to the pillow. My assistant saw her as soon after as possible, and on removing the bandage found the lids swollen and puffed out even with the nose and the conjunctiva excessively chemosed and protruding from between the lids. A thin bandage was again applied, and iced compresses ordered to be used during the night. When I saw her the next morning I found the lids enormously swollen and the conjunctiva pushed through the palpebral opening as a rather firm, reddish mass, the blood seeming to be effused into the sub-conjunctival tissue rather than into the conjunctiva itself. The cornea, however, appeared to be unaltered, and the eye was still movable. Iced compresses were ordered to be applied day and night. During the subsequent course of the case there was no pain and but a scanty discharge of yellowish serum. Even at the end of the second day the lids were somewhat softer, and on the fifth there was a quite perceptible reduction in their volume, and the chemosis was also diminished. At the end of the twelfth day both had almost entirely disappeared. The irritation in the right eye disappeared immediately after the operation, and has in no degree returned up to the time of writing, now thirteen weeks after the operation, and she has her normal visual power in that eye. The cornea of the left eye remains in the same condition as before the operation, but is still insensible. The movements of the eye are good, and there is no strabismus. A little fold of hypertrophied conjunctiva is still to be seen at the inner canthus as a remnant of the chemosis.

This case offers two instructive points for notice. The one is that though we may confidently believe we have severed all the ciliary nerves it is by no means certain that such is the case, and in all cases the sensibility of the cornea should be thoroughly tested before the operation is completed. While not denying the possibility of reunion of the divided nerves, it is possible that in some cases where the sympathetic trouble has not been relieved by the operation all the fibres had not been divided. The second point is that even an extensive secondary hemorrhage into the orbit is by no means a disastrous accident. No case could possibly look more unpromising than ours did on the morning after the operation, yet no evil consequences ensued. Indeed, it might be very properly inferred that an extravasation of blood between the divided ends of the nerves would act in some measure as a preventive to reunion.

June 21, 1880.

NOTES OF CASES EXHIBITING ACTION OF MUSCLES IN PRODUCING FRACTURES AND DISLOCATIONS—WITH TREATMENT.

BY S. J. RADCLIFFE, M.D.,
Washington, D.C.

CASE I.—C. E. K., aged 30, 6 feet 1½ inches in height, muscles highly developed, straight, good figure and physique, department clerk, amateur base-ball player, in the act of throwing a base-ball of full size and weight across the field to a catcher, with much force, fractured his right humerus at the middle third, transversely. A good deal of tenderness about the point of fracture and along the course of the muscles, and much swelling, followed. In every other respect it was an ordinary fracture, clean, well defined, and without much displacement. The fracture was coaptated easily, and with simple dressings and ordinary lateral splints, keeping the parts in position, with daily observation, the fracture united firmly in about six weeks without the least deformity.

Case II.—A. L. K., aged 28, 5 feet 10½ inches in height, strong, athletic, well developed, compact figure, department clerk, amateur base-ball player, and accustomed to active, developing exercise, after awaking early in the morning, while in the dorsal position, took hold of each head-post of his single bedstead to "stretch" himself, and giving one long, powerful pull, suddenly the head of the right humerus slipped out of the glenoid cavity and down into the axillary space, producing a subglenoid dislocation. I saw him soon after, and found him suffering much pain from the pressure of the head of the bone in its unnatural position and stretching of the ligaments of the joint. Much swelling had not yet developed. After considerable exertion in overcoming the spasmodic condition of the tense, strong muscles of the joint—not having proper assistance—by extension and counter-extension, and the force of my knee in the axilla, the dislocation was reduced, not, however, without much difficulty, the time occupied being from twenty to thirty minutes. No after-effects occurred, and after a few visits the parts resumed their normal condition.

Case III.—On one of the railroads going West, I was requested by the conductor to see one of the train-hands who had received a severe injury. Going out into one of the nearly empty baggage- or freight-cars in front of the passenger-coaches, I found a man in much distress, holding his right hand in his left, who told me he had terribly strained his right shoulder and could not move his arm for the pain. He was a strong, well-built, muscular man, used to hard work, aged about 40 years, looked as if he had never been sick and could perform any amount of physical labor. I examined his arm, and at once discovered that he had a luxation of the head of the right humerus inward,—a subcoracoid disarticulation. On inquiry he informed me that he got off the train at the station just passed, to deliver freight; the time being short, the train was ordered on. With his hand on the rail, ready to mount, the train increasing its speed, he ran along with it, still holding on, trying to pull himself up. Just as he succeeded in doing so, on letting go his grasp, he felt his arm recede with a thug, and in attempting to move it he found the motions very much impaired and accompanied by a great deal of pain. The place in which he was was a very unfavorable one for manipulations, as the nearly empty car was bobbing and jumping about in every possible direction. Yet with the aid of the conductor and another train assistant, the one holding the man firmly while the other extended the injured arm by main force, standing behind him and placing my foot on a box and my knee in his armpit, with my left hand pressing strongly on his right shoulder, my right hand guiding the head of the bone (after N. R. Smith's plan), I soon had the satisfaction of seeing the luxation reduced.

Case IV.—I was requested to see, in consultation with her physician, Mrs. M. L., Irish, spare built, aged about 60 years, who had suffered a dislocation of the left shoulder a few hours previously, with the following history. Making her bed that morning, she leaned over towards the far side, resting her weight on her left hand, which she placed as far as she could reach beyond the centre of the bed, in order more conveniently to use her right hand to smooth the bed and coverings of that side, when suddenly losing her balance—her left hand remaining in its position on the bed—her body plunged forward and to the right, and with a snap the head of the humerus slipped out of the glenoid cavity and plunged inward under the clavicle as far as its internal third, producing an exaggerated variety of subclavicular luxation, in which position I found it. The doctor stated that he had been trying about an hour to reduce the luxation, had pulled and repulled with sheets and towels, and though a large, heavy young man, he had not been able to accomplish anything. It was rather a bad case in a not very robust-looking old woman, where experiments could not be practised, and care had to be exercised to avoid rupturing the axillary artery, which is especially apt to occur in atheromatous conditions; yet, as it had been severely tested for an hour, the responsibility or danger was therefore lessened. I flexed the forearm on the arm, drew the arm and forearm thus together obliquely across the chest, there holding the limb thus placed firmly, the left hand grasping the upper part towards the shoulder, and the right hand the lower part towards the elbow, pressing strongly on the elbow to give it the sweep over the rotundity of the chest, then with a certain rather sudden twist or rotation inward and upward, the head of the humerus flew swiftly back into the glenoid cavity,—in as short a time as I take to relate it,—and I left the case in the hands of the attending physician for dressing. Singular to say, in about half an hour after I left her the doctor called to say the bone was disarticulated again; that the woman desired to test her arm to see if it was all right, and giving it two or three circular swings, the relaxed muscles and ligaments allowed the head of the humerus to be disarticulated again, though it was not thrown so far from the joint as before, but in the same direction; it was now a subcoracoid luxation. I reduced it again in the same way in a few minutes, and then saw that the dressings were completed. The case recovered.

I present these cases not without the hope that they may be of sufficient interest to be worth recording. They are somewhat rare in themselves, and show how different and varied may be the means and forces that produce solution of continuity in a part, as well as the ingenuity that is frequently requisite to meet the requirements of the many anomalous conditions presented to the surgeon, with whom the successful application of means to ends lies in the direction of solid improvement.

Case I. exhibits the result of direct muscular action upon the shaft of long bones. This accident does not very frequently occur, only a few cases having been reported; and its chief interest may possibly lie in that direction.

Cases II. and III. show the forces implicated, tending to produce displacement, of a more indirect character. In Case II. the body was comparatively in repose, while in Case III. it had the gravity of the body to contend with.

Case IV. resulted probably more from a passive or negative condition of the muscles. The muscles of the shoulder and arm, being over-strained from maintaining the weight of the body in a certain position, became enfeebled, and unable, therefore, to continue their normal functions, yielded passively to the superimposed pressure, and consequently to the luxations. After the head of the bone had left its socket, its course was limited only by its most distant barrier.

1211 F Street, N.W.

A NOTE ON THE ADMINISTRATION OF PHOSPHORIC ACID.

BY WILLIAM PEPPER, A.M., M.D.,
Professor of Clinical Medicine in the University of Pennsylvania.

I HAVE for several years been using phosphoric acid internally in a large number of cases. The medicinal properties that are usually assigned to this drug are those of a tonic to the digestive organs and to the nervous system. It is usually administered in the form of dilute phosphoric acid, alone or in combination with some other tonic, such as quinia, tincture of the chloride of iron, etc.

After having satisfied myself that it is a remedy of very great value in suitable cases, I was led to consider its administration in conjunction with other substances by noting the large extent to which I found the preparation termed Horsford's Acid Phosphate used in this community without prescription from any physician.

I found, on inquiry, that this preparation, the formula of which is published in the paper accompanying each bottle, contains the following ingredients in each fluidrachm:

℞ Acid. phosphor. (free), grs. vss;
Calcis phosphat., grs. iii;
Magnesii phosphat., gr. ss;
Ferri phosphat., gr. ⅙;
Potassii phosphat., gr. ¼.

It is a liquid of an intensely sour taste, with scarcely any appreciable trace of the taste of iron, and, when very freely diluted with water, is not an unpleasant dose. Many patients, however, complain of its intense sourness, and in the dose recommended by the makers (fʒss) it quite frequently causes irritation of the stomach and looseness of the bowels, on account of the large proportion of phosphoric acid contained.

As each fluidrachm contains five and one-half grains of free phosphoric acid, which is equivalent to sixty-six minims of dilute phosphoric acid, the ordinary dose of a half-teaspoonful of the acid phosphate contains the equivalent of thirty-three minims of dilute phosphoric acid,—an amount which is more than will be readily tolerated by many stomachs. In addition, it is clear that the quantities of the phosphates of magnesium, iron, and potassium present in half a teaspoonful of the "acid phosphate," namely, grain one-fourth, one-twelfth, and one-eighth, respectively, are too minute to produce decided therapeutic effects. In very many of the cases, however, where phosphoric acid is indicated, efficient doses of these associated phosphates would also be desirable.

Despite these defects, I ascertained that Horsford's Acid Phosphate had been used with such good results as to suggest the desirability of an analogous preparation more in accordance with the views above expressed. I therefore requested Henry C. Blair's Sons, the well-known apothecaries of this city, to compound for me the two following formulæ:

First.—Liquor Acidi Phosphorici Comp. (*with Iron*).

℞ Calcis phosphat., grs. iii;
Magnesii phosphat., gr. ss;
Potassii phosphat., gr. ¼;
Ferri phosphat., gr. ½;
Syrupy phosphor. acid, ♏vi⅜;
Aquæ, q. s. ft. fʒi.

Second.—Liquor Acidi Phosphorici (*without Iron*).

℞ Calcis phosphat., grs. iii;
Magnesii phosphat., grs. ii;
Potassii phosphat., grs. iss;
Syrupy phosphor. acid, ♏v;
Aquæ, q. s. ft. fʒi.

After various trials, they have prepared these formulæ in permanent and eligible forms.

It will be observed, in the first place, that the amount of phosphoric acid is somewhat less than that contained in Horsford's Acid Phosphate, as the syrupy phosphoric acid used in the preparation of these formulæ is about sixty per cent. the strength of glacial phosphoric acid; so that the compound solution (No. 1) contains the equivalent of about forty-five minims of the dilute phosphoric acid in each fluidrachm, and the simple solution (No. 2) contains the equivalent of about thirty-six minims of dilute phosphoric acid in the fluidrachm. The amount of iron in the one, and of the other phosphates in the second solution, are such that while the chief action of these preparations would, of course, be due to the phosphoric acid, the associated elements may be expected, even in moderate doses, to produce some appreciable effect.

I have used these two solutions lately with very satisfactory results, and I incline to think they deserve an extended trial.

NOTES OF HOSPITAL PRACTICE.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

CLINICAL SERVICE OF EDWARD C. SEGUIN, M.D., PROFESSOR OF DISEASES OF THE MIND AND NERVOUS SYSTEM.

Reported for the *Philadelphia Medical Times.*

PARALYSIS OF THE ARM OF TRAUMATIC ORIGIN.

GENTLEMEN,—The patient now before you received an injury of the right shoulder nearly eight weeks ago, by being struck by an iron brace one hundred feet long and seven-eighths of an inch in thickness. The momentum of such a long bar of iron must have been very great, and hence the blow was a most violent one. The man was first seen by Professor Little, of this college, who, after a careful examination of the injured shoulder, discovered a fracture of the coracoid process. On account of the extreme rarity of this accident, Professor Frank Hamilton, the author of the best work on fractures and dislocations in the English language, was called in to see the case, and, although his surgical experience has been so large, I understood him to say that he had never before seen an instance of it. There was no dislocation of the shoulder, but, in addition to the fracture of the coracoid process, it was found that there was complete paralysis of the arm. Dr. Little, as a surgeon, was naturally more interested in the fracture, but, finding that the paralysis persisted, he handed the case over to me. Of course, as a neurologist, I was more interested in the paralysis; and this is also the case at present with the patient, since the fracture no longer gives him any trouble.

On making an examination now, we find that there is marked atrophy of all the muscles of the shoulder and arm. This is especially the case with the deltoid, and it produces an appearance resembling a partial dislocation downward at the shoulder-joint. Sensation is entirely abolished in the fingers, forearm, and for some little distance above the elbow, but above that it begins to appear, and as we approach the brachial plexus it is found to be normal. There is no faradic reaction whatever in the muscles of the arm, although there seems to be a somewhat doubtful reaction in those of the scapula. When galvanism is resorted to, we find those peculiar, slow, vermicular movements of the muscles which are characteristic of nerve degeneration.

Now, what is the lesion producing such phenomena as the above? I believe it to be a physiological division of the nerves by reason of the accident which has been described. It is possible that the trunk of a nerve may receive little or no injury, and yet that the nerve-fibres within should be divided or suffer such marked contusion as to have their functions destroyed. This is what we understand by the physiological division of a nerve; and I think that in this case it has occurred in all the thin cords of the brachial plexus, while the branches which go to supply the pectoral muscles and the shoulder itself have also been more or less affected. The location of the injury was probably in the upper part of the axillary space.

Besides the paralysis, we find that the patient has suffered from a great deal of neuralgia in the affected extremity. This originated in the fingers only three or four hours after the reception of the injury, and has continued ever since. Such primary neuralgia in cases of this kind is an exception to the general rule. In most of the instances of nerve injury that I have seen the neuralgia has been secondary, and has not appeared until two weeks or more after the division or contusion of the nerve-fibres. Here the musculo-spiral and ulnar nerves are the principal seats of the neuralgic pain, and it has been relieved to a considerable extent by galvanism.

The class of cases to which the present one belongs has not been studied nearly as much as it should have been, because they are not by any means as rare as most observers seem to suppose. At this clinic quite a number of them have been presented during the past few years, although until now there has not been one here very lately. So far as I have been able to study the subject in its clinical aspects, it has seemed to me that the explanation of the difficulty must be as follows:

If we look at a human skeleton from

above downwards, it will be seen that there is a somewhat triangular space between the shoulder-joint and the thorax, bounded on one side by the clavicle, on another by the scapula, and on the third (which is the base) by the ribs, while the apex is represented by the shoulder-joint. Within this space are located numerous large nerves and blood-vessels. Now, it has occurred to me that, in such accidents as this patient has met with, the whole of this triangular apparatus is driven strongly inward against the first, second, and third ribs. The blood-vessels and nerves are thus caught between these unyielding bony surfaces at the moment of the accident, and receive more or less injury, according to the amount of force that is brought to bear upon them. In the present instance the whole brachial plexus must have been completely crushed.

I offer the above hypothesis now merely as a suggestion, but I trust that I shall soon be able to make some experimental researches in regard to the effect of strong force caused suddenly to act upon this portion of the body, by which its truth may be either established or disproved.

On account of the favorable experience that I have had in similar cases, I have encouraged this patient to expect improvement in his arm. I will not, of course, say that he will have as good use of the extremity and of all his fingers as he had before, but I still think that after a time its condition will be very much better than at present. The nerves, you will find, have wonderful recuperative power. It is necessary to warn the patient, however, that in his case the atrophy of the muscles may go on increasing for several months yet; but, although I do not believe that the atrophic process has yet reached its maximum, the favorable prognosis is not thereby overthrown.

Before passing on to another case, I will call your attention to the fact that this patient has a pupil of smaller size on the side upon which he received the injury than upon the other. This is a coincidence which I have now remarked in quite a number of cases, and I first noticed the symptom four years ago in a patient who had laceration of the brachial plexus. This was a man who was driven for a considerable distance through the air by a premature discharge of a cannon which he was engaged in loading. The most serious injury which he received from the accident was a compound fracture of the bones of the forearm, which rendered amputation necessary; but, in addition to this, there was a bad laceration of the nerves, which extended above the point where the amputation was made. On account of the extreme suffering which he experienced from this (the pain almost driving him frantic), a resection of the nerves going to the brachial plexus was made. About a quarter of an inch of each of the nerves operated upon was removed, but, unfortunately, the neuritis giving rise to the trouble had extended beyond the point of section, and but little relief was thereby secured.

I made a communication in regard to this matter to the American Neurological Association, and it was then ascertained that other gentlemen had observed the same fact. Among these was Dr. Hammond, who had noticed it in a case of "crutch-palsy" which had been under his care.

Three or four weeks ago, as some of you will perhaps remember, I presented at the clinic a woman who had secondary and tertiary cancerous deposits in the axilla which compressed the brachial plexus, and in her case also there was contraction of the pupil on the side that was thus affected.

This condition of the pupil seems, therefore, to be an evidence of injury to the brachial plexus; but it should not be forgotten that it may also be due to a number of other causes, as, for instance, aneurisms, enlarged cervical glands, and certain forms of disease of the heart. Consequently, it is not ordinarily of very great assistance from a diagnostic point of view, although in some instances it may not be without considerable significance.

(To be continued.)

TRANSLATIONS.

Poisoning by Belladonna treated by Chloral.—Dr. Troquart (*La France Méd.*, 1880, p. 365) reports the case of a patient, 24 years of age, who, having suffered for some days with ringing in the ears, was recommended to take belladonna. He took a handful of belladonna leaves, of which he made an infusion in a small quantity of boiling water, and swallowed the fluid. Half an hour later he was seized with severe pain in the stomach, excitement, and vertigo. He then took some tartar emetic, which produced vomiting. Three hours after the ingestion of the belladonna Dr. Troquart saw the patient for the first time. He was then violently delirious, stretched upon a bed, where he was only held down by the united exertions of four persons, and uttering piercing cries. He did not recognize the members of his family who stood around him. His face was flushed, animated, covered with perspiration, his eyes haggard, the pupils dilated, the entire body animated by disordered movements. This access of furious delirium lasted four or five minutes, then the patient fell into a condition of complete prostration, to which again succeeded a fresh attack of delirium a few minutes later. Dr. Troquart ordered the patient strapped to the bed, and that he should take a potion containing a drachm of chloral. Returning several hours later, it was ascertained that the chloral had not been given, the patient keeping his mouth tightly closed, and the attendants having been unable to force him to swallow. Dr. T. then gave him at once an enema containing eighty grains of chloral. Very soon after, calmness succeeded to violence, and the patient fell asleep. When he awoke, and the delirium seemed likely to recur, he was given some more chloral. The night following passed without disturbance, and the patient awoke next morning with nothing more than severe muscular fatigue.

LYMPHATIC PHLEGMON—CURE BY RESORPTION OF PUS.—M. A. Poulin (*La France Méd.*, 1880, p. 410) says that lymphangitis frequently constitutes a complication of cutaneous affections, often accompanying such superficial eruptions as eczema and itch. In his paper he only desires to speak of the possible resorption of pus in the case of lymphatic abscesses, even when these are somewhat extensive. These abscesses are not raw, and even when pus has already formed in them, it may be evacuated without opening them. Of course it will not do to temporize too long, and, under the pretence of avoiding an incision, permit the pus to infiltrate the surrounding tissues. But it should be remembered that under the influence of rest fluctuation may disappear little by little, and resorption may be completely accomplished. It is rarer to find an abscess forming in the course of the lymphatic vessels. Even in this case, however, the pus may be absorbed. M. Poulin subjoins the case of a man of 37, who was admitted to the St. Louis Hospital suffering with excoriations of the left foot, following chilblains of some months previous. Two days previously he had had a chill, and at the same time his leg began to swell. On examination the patient was found suffering with a superficial ulceration of the dorsal surface of the left great toe. The limb was œdematous in its lower portion, the skin hot and roseate, presenting a red color with an ecchymotic shade, even to the calf. Œdema also existed. From the calf a reddish line could be traced, running up the thigh, and following the course of the saphenous vein. The inguinal glands were engorged without being very voluminous and without periadenitis. A day or two later, the patient having kept his bed meanwhile, a fluctuating tumor appeared in the calf, which evidently contained pus. In spite of suppuration having taken place, careful treatment by perfect rest alone resulted in the entire absorption of the pus without any opening having formed.

HYDROCEPHALUS INTERNUS SYPHILITICUS.—Laschkewitsch (*Cbl. f. Chir.*, 1880, No. 23; from a Russian source) expresses the opinion that under the influence of syphilis a disturbance of purely inflammatory character may develop itself in the brain. The inflammation of the ependyma, with resulting effusion of fluid into the ventricles, is an example. This affection is usually accompanied by other syphilitic changes in the brain, but it invariably preponderates, and must be regarded as an especial disease, with its own characteristic symptomatology. Its symptoms are: headache, which appears with unusual severity at the beginning of the disease; nausea and vomiting, easily induced by movements of the head and changes in the position of the patient. Psychic activity is dulled with the progress of the disease. The pupils are enlarged, but are sensitive to light. The ophthalmoscope shows passive hyperæmia of the eye-ground. The course of the disease is chronic; it begins after the period of the gumma.

The diagnosis is not difficult in connection with an exact history of the affection; in the absence of the latter the diagnosis is much more difficult. At the beginning of the disease it may be mistaken for an ordinary cephalalgia, or, particularly in children, for incipient tubercular meningitis. The following points may serve to aid the differential diagnosis:

Cephalalgia is rarely met with, and when it occurs is periodical, with long intervals, during which the patient feels quite well. Ependymitis syphilitica, on the other hand, gives the patient no rest, and grows worse and worse. In cephalalgia there is no hyperæmia of the eye-ground. As to meningitis tuberculosa, alteration of the pulse is here present already in the earlier period; the patient suffers with fever, followed, a little later, by delirium, convulsions, etc. As to therapeutics, Laschkewitsch recommends the simultaneous employment of iodide and bromide of potassium or sodium.

Union by Catgut Ligature in Transverse Fracture of the Patella.—Professor Volkmann (*Cbl. f. Med.*, 1880, No. 24) alludes to Kocher's process, by which the use of Malgaigne's hooks can be avoided. A strong double silver wire is carried, by means of a curved needle, under the patella, inserting the needle under the lower border of the inferior fragment, and bringing it out above the upper border of the superior fragment. The chief difficulties in approximating the fragments by drawing on these wires are the bleeding and the crumpling of the skin. In order to make the operation easier, Kocher makes two longitudinal incisions above and below the patella, two centimetres in length, and only going through the skin. Antiseptic precautions are taken, and after forty-eight hours or so the wires are tightened up again. Volkmann says that this procedure should be called suture of the tendons rather than suture of the bones, in contradistinction to a somewhat similar operation which has been recommended, and he thinks it to be preferred in recent cases when simpler dressings cannot be employed. While the joint may be punctured to allow the escape of an effusion of blood, which may keep the broken fragments of the patella apart, such an extensive opening as is necessary for suture of the bones is by no means to be advised,—at least, as a general thing. But even by Kocher's procedure the wire must be drawn through the joint, and must remain there for a greater or less period; and it might be questioned if some plan could not be devised whereby the end could be obtained by some other means. Volkmann himself has never seen any harm come of opening the joints under antiseptic precautions, but he thinks that all surgeons are not capable of carrying out this procedure properly.

After the wire is drawn tight, a plaster-of-Paris bandage is applied, leaving holes for the withdrawal of the sutures. Volkmann gets bony union, which, he says, is almost impossible by older operations, because the separated portions of the bone cannot be brought closely in contact.

Generalized Telangiectasis.—At a recent meeting of the Société des Hôpitaux (*La France Méd.*, 1880, No. 48), M. Vidal referred to a case related by Tanturri, of Naples, which the latter entitled "generalized and idiopathic vinous dermatosis." The patient whom Dr. Vidal brought forward was a woman 31 years of age. She was extremely neuropathic. At thirteen years of age she began to menstruate. At fourteen she began to suffer from urticaria. At the date of her exhibition to the society she showed various macular lesions which tended to generalization; on the legs were some very superficial varices. She suffered occasionally from unendurable pruritus, with a chilly feeling whenever the temperature changed or when her nervous system was excited by any cause. The first symptoms had occurred after some violent emotion. Urticaria continued to show itself not infrequently. On the arms a vinous red tint prevailed, with an erectile condition. If the skin was stretched it lost its red color and became yellow. The tints became grayish, however, when the limb was compressed near the trunk. The face was covered with marbled patches, which had been somewhat modified by scarification. M. Vidal regarded the case as a form of telangiectasis.

New Formula for Fehling's Solution.—In order to replace the ordinary Fehling's solution, which, as is known, decomposes after a time, Schreiter, of Würtemberg, suggests the following:

℞ Sodii salicylati,
Cupri sulphatis, āā grm. i;
Sodii caustici, grm. v;
Aquæ destillatæ, grm. xx.—M.

After filtration a clear blue fluid is obtained. On heating this in a test-tube the copper salt is decomposed, and the least trace of sugar present is indicated by a fine brownish-red color. According to Schreiter, this liquid can be perfectly well preserved.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, AUGUST 14, 1880.

EDITORIAL.

THE PHARMACOPŒIA.

THE United States Pharmacopœia Committee appear to be energetically engaged in preparing the work which was intrusted to them, but some propositions which were recently shown to us as having been submitted to the committee by one of its members excite the fear that activity may outrun wisdom. Discussion is, however, not decision, and we believe that there is too much good sense and conservatism in the committee for it to be carried away by a few members. A little public discussion of the matters concerned can do no harm, and may do good by strengthening the hands of those who are opposed to violent changes.

It is proposed to alter the nomenclature of the Pharmacopœia so as to make it conform with that at present in vogue among chemists, and also to be more consonant with that of continental Europe.

If Mr. Rice were Czar of all the Russias, and we were all Russians, his committee might make the nomenclature what he would, and we would have to bow in submission. But the doctors and druggists for whom the committee is at work are Americans, and the committee is not their ruler, but their bondsman, to do that which the professions of medicine and pharmacy desire; else, assuredly the professions will eventually scout it and its Pharmacopœia. In other words, the Pharmacopœia must follow, and not lead, the moderately advanced medical public opinion, if it is to be an obeyed standard and to guide the mass of the profession. Then, again, doctors are busy men, and busy men do not want to be, and will not be, oppressed in their work by fanciful innovations.

"'Ferrico-Ferrosus Phosphas.' Humph! Ferri Phosphas has served me forty years: I will stick to it." Such will certainly be the language of conduct, if not of speech, of the mass of the profession, if chemistry breaks loose upon the pages of the new Pharmacopœia. The names will remain a dead letter, and the living and dead bound together must meet a common fate. The inertia of such a body of men as the Pharmacopœia has to do with is enormous, and no committee can lift the dead weight more than a very little; if it attempts too much, it will succeed in nothing except in wrecking the important interest confided to it.

Further, not only is it impracticable, but if it were practicable it would be, in our opinion, unwise to attempt accord with chemical nomenclature. We want that which is staid, not that which is ever shifting, in a national standard. Hydrargyri chloridum corrosivum says at once the corrosive combination of mercury and chlorine, and from all time to all time marks distinctly what is wanted, and cautions both prescriber and dispenser against danger. The most ignorant drug-clerk can hardly mistake such a name, whilst in order to read aright the last chemical appellation the chemical professor or the graduate of not more than three months' standing must be sent for. What sort of a foundation can be laid upon the mobile quicksands of chemical theory?

Plainness, simplicity, permanency, brevity,—these are what are wanted in the nomenclature of the Pharmacopœia far more than extreme scientific accuracy or completeness; although the latter is of course desirable if obtained without sacrifice of essentials.

Kalium, stibium, natrium,—these, to replace the good old-fashioned names of potassium, antimonium, sodium, in order to bring us into sympathy with the Germans and French. A very large number of officinal names would be affected by these alterations, and, so far as we can see, no good achieved, save only a momentary gratification of the restless deity of change. Just so far as we draw near to the Continental pharmacopœias we draw away from the English standard. All our linguistic sympathies naturally flow towards England, not France or Germany; it is an English-speaking, not a French-chattering or a German-gutturalizing, people that the Pharmacopœia is being prepared for. The deep, strong river of Anglo-Saxon has flooded this continent with its pure waters; German, French, Italian, and a host of minor streams are flowing in, but let us all aid in seeing that they do not pollute our most worshipful of languages.

CORRESPONDENCE.

LONDON LETTER.

THE position of matters at Guy's Hospital does not improve, and what the result will be no one can foresee; but each side seems buckling on its armor for a stubborn contest. Personally I am not at all confident that the battle will end in a victory for our profession. Strong as is the staff of Guy's, and large as it is, the social position of the profession is such that little real regard is shown for us. There is a great deal of showy outside consideration exhibited towards us, but underneath the feeling is less friendly. There will be much licking of the outside of the platter, but it will not go further; at least if it does I shall be agreeably surprised. Probably your readers who do not know England personally will feel much surprise, mingled with chagrin, at the idea that the profession here can thus be slighted, but that is because they do not know how matters actually stand in the old country. To comprehend the matter they must take a bird's-eye view of us. There are in the profession a number of excellent men, hard-working, sincere, intelligent, and trustworthy, men of whom any profession may well be proud. Such men come to the front and are conspicuous, either in literature or in good social practice, where their qualities give them a far-reaching personal influence. But there is the obverse side of the picture, and, at the risk of wounding the susceptibilities of the editor of the *British Medical Journal*, it must be confessed that there are also men—at least persons presenting the semblance and outer characteristics of men—in the profession who would sink anything that ever floated from the days of Noah's ark to the "Great Eastern." These are the individuals who really lower the profession in the eyes of other men. It is not the open blackguard who does so much harm. His shortcomings are readily apparent; he may be a blackguard, but he is not a fraud. He is comparatively rare, too; so rare as not to count for anything. The real dead weight on the profession is a far different man. He is the type of respectability. It is impossible to point to blemish or spot on him. Go over him bit by bit with a microscope, and he is perfect. Human perfectibility has reached its acme in him. The human apotheosis is attained at last. And yet the whited sepulchre is not the less a despicable fraud. He is utterly hollow, and a drum is a solid of high specific gravity compared with him. He knows what he is only too well; and he has a very low opinion of other people. Entitled to no confidence in himself, he is not in a position to feel much confidence in any one else. He is at once suspicious and treacherous. There is a chill atmosphere of doubt around the frigid respectability of the man. He has not given much study to the well-known work "Lord Chesterfield's Letters to his Son," but he has learned the lessons there inculcated pretty thoroughly. His manners are unexceptionable, his morals unimpeachable; he never told "a gentleman's story" or related a personal professional reminiscence louder than in a whisper, and then only to a select circle of auditors. He is a "very proper gentleman" indeed. Yet his conversation contains a deal of calumny. No member of the profession, with the exception of a very select few, stands high in his opinion. Censure is his forte, disparagement is his diversion in life. He has some poisonous scandal to tell of one man, or some shocking story of reported alcoholic indulgence in another. He has an instinctive hatred of honesty and uprightness, and takes his revenge by traducing the moral character of those who are better and worthier than himself. He is not capable of much himself, but he is a tower amidst the ruins of others' wrecked reputations, as he clambers up over their remains into a "good social position," and manifests his excellent qualities by contrast. Ladies look upon him almost with awe. His perfection of character subdues them. His small talk of scandal and disparagement impresses them. But his hospital committee pay little respect to his wishes. From the first day he appeared before them to the day when he will resign his post after years of meritorious service, he has sought his own ends, and they know it. Business men, as most men are who are on the committees of hospitals, detect this fraud very soon, and know his value to a hay-seed.

They see him all ardor and propriety to get on the staff. It is admitted he is not a "strong" man, but he has friends who recognize his merits. He is a plodder; there is promise in him! He is cunning, and makes friends, but no enemies. But while he is observing other people he is not always acutely conscious that there are others watching him. He twists and turns like a weasel, and there are people who recognize the weasel characteristics in him. After a time he attains a senior position on the staff, and a new side of his character develops itself. Having not fulfilled the promises which his early friends imagined they saw in him, he is not anxious to have any brilliant juniors. He cannot have his little flame of light placed in any contrast that will make it less than he can help. His self-interests, the opinions of the students, must be kept carefully in view. A brilliant energetic junior might impress the students, and when they become practitioners, and have consultations in their power, they might send for this junior, and so divert some guineas which otherwise would come into his pocket. He sees all this clearly enough, and takes his measures accordingly. He will have no talent below him in his department. If a physician, he is all ardor when there is a surgical appointment to be made; the best man, to be sure! The interests of the hospital! He is crystallized integrity. But let the appointment be on his side of the staff, and then what does he do? He goes about dropping distilled poison into the ear of each member of the committee, and leaves it to work. He tells one man he fears the habits of the ablest candidate are not such that he can remain long at his post; to a committeeman of another temperament—the apprehensive order of mind—he whispers his fears that the candidate best fitted intellectually for the vacant post is not strong in constitution, or not possessed of funds sufficient to hang on till practice comes, and so quietly assassinates him. The worst of this low scheming is that another reputation has to be blackened that he may carry his vile ends, and he neither knows nor cares how far this injury to another may go, nor how long it will last, nor what it ultimately costs the unfortunate victim, provided he only keeps him off the staff. And then this scheming, wriggling creature often deludes himself into the belief that the members of the committee do not apprehend his conduct and note his intrigues. As a "dangerous" man the other members of the staff treat him with a certain respect, and defer to his wishes, often against their better judgment, and this also the lay committee observe. How, then, is it possible, so long as the profession is false to itself, for it to have that social position and influence which it ought to have? It must first dethrone a lot of its false gods and let merit have a fairer innings before the outside world will respect it.

No reader must imagine the above sketch to be a picture of any one on the staff of Guy's Hospital, or indeed of any one individual on any hospital staff in London, but there are those who will recognize the type of man here sketched and recognize the fidelity of the picture. There are plenty of imperfect copies of the picture, I regret to say, both among the hospital men and others in the profession in London and elsewhere. The question may be pertinently asked why there are plenty of this detestable kind of character in the medical profession. And the reply is, the pursuit of medicine is peculiarly favorable for such characters. Probably nothing is more difficult as an intellectual process than for a patient to gauge and estimate correctly the value of a medical man's services. The only test is "results." Now, a favorable result is often the consequence of a patient's good constitution rather than the skill displayed by the medical attendant. But how is this to be determined by the patient or his friends? On the other hand, if the patient die, what is there to prevent any one who wants to say so from saying that if a different line of treatment had been adopted the patient would have survived? Nothing in the world. Consequently, if a man is plausible, knows something of his profession, knows a little more of human nature, and possesses a not very sensitive conscience, medicine affords him a very suitable field for the display of his "talents," such as they are; and as to gathering together wealth such a man is no "unprofitable servant." Medicine does very well for him, but what does he do for medicine? that is another matter! This type of man plays the very deuce with the standing of the profession, as he would with any other profession or calling, if he existed in it in equal proportion. Then there is the vast bulk of mere respectable mediocrity which finds its way on to the medical staffs of hospitals. A man goes to a medical school holding a good social position; his friends are in a position to meet members of the staff at dinner and invite them to their houses; and this dinner question is a wonderful lever in Old England for lifting a weight out of the way. The youth is steady, for, having friends in town, he is saved from much temptation which necessarily lies in the path of a youth up from the country, who has to make his own friends and kill his spare time as best he can, and therefore often gets into much mischief that the other man is saved from. But reverse the position of the men, and what would be their respective behavior? Very different, I venture to say. Then these men become intimate with a number of the staff, and the personal-friendship element is no little matter. So the steady youth's way is prepared for him. His friends possess such means that there is no fear of his breaking down financially,—one of the most terrible things that can happen socially to the staff of a hospital. So he gets a registrarship at the hospital, is the selected next man for the staff, and in time gets upon it. Once there, survivorship passes him on to the highest final grades. He starts with pathology, then lectures on materia medica, and finally rests in the chair of practical medicine. During all this time, however, he is but a mediocrity, and his colleagues know it. But, nevertheless, he is there, and they know that too! Now, such a man dare not entertain the thought of severing his connection with the hospital; it is his sole hope of success in life; he must stick to it, or drown in the surging waters of London life. A certain proportion of these men may be floated by the energy of the other men who do possess power. But too much of this dead weight gets the place too desperately near what seamen call the "load-line," and the craft becomes unsafe. If our hospitals would only adopt the German plan of having subordinate posts, where a poor man could get bed and board and earn a trifle by teaching for his clothes and pocket-money, and so hang on to his hospital, it would be infinitely better for the hospital in the end. Hospitals drive away a lot of their best talent that they would do well to keep, and keep a lot of mediocrity they would do well to drive away. The treasurer of St. Bartholomew's has taken a most proper step lately, viz., he has abolished the costly canvas of the governors, which was such a terrible fine for many men, and which deterred many able men who could not possibly afford it from attempting to get on the staff of that hospital. This is in every way to be commended. It is the constitution of the staff with its large proportion of mediocrities upon it which often paralyzes action in hospital rows: what energy there exists is too heavily handicapped to take decisive steps.

Now, I dare say the reader by this time is beginning to see why the medical staff of Guy's Hospital do not take the step of resigning *en masse*. The staff of Guy's contains a very large proportion of very good men, first-rate men in every way; the hospital has not one man of mediocre ability on its staff; it has always set an excellent example in the selection of men to come on its staff; its medical staff is not emasculated by the presence of either of the class of men just described. Then the reader may ask, "Why do not the staff resign *en masse* and bring their opponents to their senses?" Just, for one reason at least, because they know that there would be no difficulty experienced by the governing body in filling their places. They know quite well that in the huge mass of medical men in London there are a sufficiency of men, not unknown to the profession either, to whom the temptation of being on the staff of Guy's Hospital would be too much for their conscience and their power of resisting temptation. Even in its present position, shorn of much of its glory, Guy's Hospital could be run with a new staff, by no means contemptible intellectually, at very short notice. Hence it is unavoidable that the staff act warily. To resign *en masse* would be acting suicidally in the face of the facts recorded above,—or at least what I apprehend to be facts. It is just this unfortunate fact, that medicine offers a peculiarly good field for the polished man devoid of principle,—who affects an almost impossible height of virtue and leads a life of actual depravity,—that paralyzes action. The profession knows well what untrustworthy elements there are in it, and the large proportion of men in it who are virtuous from the absence of temptation, but who could not be trusted in the presence of temptation, and they themselves as well as other people know it. In saying this I do not desire to disparage the profession as a body: the bulk of the profession are honorable men, as every one knows. It is the men who vulgarly are called "sneaks," the men that cannot be relied upon in an emergency, or rather that may be relied upon safely enough to break down like a bad gun-barrel under the government test, that are the plague of the profession. Of course it is very likely that some of these individuals will get up a lamentable howl at my abusing the profession, simply because I have uncovered their nakedness. Or it is quite possible that the editor of the *British Medical Journal* may get up on his stilts again and admonish me in abusive language; but there is nothing very deterrent in that; there is thunder—and thunder. The first does carry with it an element of fear; the latter does not, but involves an element which provokes contempt. But even he admits that the profession is not treated as it ought to be; and in the number for July 17 he says, in speaking of a verdict imputing "gross negligence" to the medical superintendent of the City of London Infirmary, "This case is another instance of the scant consideration and absolute injustice which our profession too frequently receives at the hands of the general public." The public know that they can kick the profession safely, as the different rows which recently have gone on and are going on at various places only too painfully testify. And it is no good blinking the distasteful fact. Why can't the profession kick back effectively? Because the capable part of it is too heavily handicapped by the incapable portion; that section who are not merely a dead weight upon it from their own unworthiness, but who further depress and lower the profession by private and insidious depreciation of abler, honester, and more energetic men than themselves; men who wilfully close their eyes to the fact that the reputation of the profession is the aggregate of individual reputations, and who constantly violate the law of loving their neighbors as themselves.

J. Milner Fothergill.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JUNE 24, 1880.

The PRESIDENT, DR. S. W. GROSS, in the chair.

Cancer of the pylorus. Presented by Dr. JAMES TYSON.

SPECIMEN I.—G. E. C., aged 32, a grocer and provision-dealer, had always been dyspeptic, but never otherwise seriously ill until February, 1879, when he is said to have had an attack of diphtheria, from the effects of which he had only partially recovered when he returned to his business. He consulted me first about the 25th of April, 1879, with a slight sore-throat, but chiefly on account of an extreme feeling of weakness. His pulse was frequent and feeble. A careful physical exploration failed to discover any affection of the heart and lungs. The usual restorative measures—iron, quinine, digitalis, good food, a visit to the sea-side—all failed to relieve him. For a short time I thought him hypochondriacal, but was soon satisfied that his illness was earnest. About the 15th of May I put him to bed. About this time, also, I was impressed by his extreme pallor. His hands and fingers appeared almost bloodless, and it was with difficulty that I secured a drop of blood from his finger for microscopical examination. The drop itself appeared like a drop of serum, and I thought the number of colorless corpuscles was slightly increased, but no careful count was made, and the observation cannot be said to have any value. Nevertheless, I concluded that I had to do with one of the set of cases of which leukæmia and pernicious anæmia are examples. My colleague, Dr. Pepper, saw him, in consultation with me, on June 7, and we together gave him a thorough examination, which resulted in no further development, but rather in a confirmation of my original opinion. Under the use of dialyzed iron, quinine, arsenic, sulphate of strychnia, milk, and inunctions with cod-liver oil, he seemed for a time to improve. His pulse, which had been 96 to 100, and still further increased on the slightest exertion, was often as low as 84, though easily accelerated; his color seemed better; and on pricking the fingers, about June 20, the drop of blood obtained appeared brighter red in hue, although in the mean time he had had a sharp attack of diarrhœa and of hemicrania, which yielded only to large doses of quinine and hypodermic injections of sulphate of morphia. Some headache continuing, the iron was discontinued on the 28th of June, but recommenced July 7 and continued, with the arsenic, until July 24. The very liberal diet instituted was borne very well until the 19th of July, when for the first time his stomach gave way. For three days he vomited in an undigested state all food taken, and a milk diet was instituted. Repeated examinations of his stomach in the course of his illness had failed to discover a tumor, but at this time (July 21) I was able to mark out an indistinct area of dulness, about two inches in diameter, to the left of the median line, partly above but chiefly below the umbilicus. This area subsequently disappeared, to reappear again in a slightly different locality. Thus, at another time it was above the umbilicus, occupying the triangular space bounded on the right by the median line, the left by the oblique receding border of the ribs, and below by a line drawn transversely through the umbilicus. Between these two extreme situations it occupied others at different times, being generally, however, to the left of the median line until towards the close of life, when, on account of its increased size, it extended somewhat to the right.

The first attack of vomiting occurred, as stated, July 19. The milk diet was continued until July 27, when some solid food was permitted, at his urgent desire, and on August 1 occurred the second attack of copious vomiting. The vomiting was at night, and the undigested food of the morning was rejected. It was repeated on the 6th, 7th, and slightly on the 8th, on the 9th, and on the 13th. From this time vomiting occurred frequently, although the intervals were sometimes surprisingly long, reaching ten days, and the quantities enormous. He frequently insisted that two gallons were thrown up before the attack ceased. The matter vomited was watery, dark in color, containing sometimes food undigested, but often appeared almost like pure water. It never contained blood. Various measures were taken to relieve it,—nitrate of silver, belladonna, carbolic acid, bismuth, blisters, the latter with most effect. He was always hungry, and after vomiting would eat solid food in spite of our protestations. His decline was very slow. After November he vomited almost daily, but, notwithstanding this, he went down-stairs daily until within five weeks of his death. The tumor was now very evident over a large area, with the left of the umbilicus as a centre. It pulsated with every contraction of the heart: indeed, this pulsation was evident in August.

The following extracts from my notes give an idea of his condition:

On December 2 I have, "Mr. C. keeps wonderfully well, although his condition is variable. Three days ago he was very much prostrated, having vomited nearly all day. The quantities he vomits are sometimes enormous,—more than a gallon at a time. There has been for some time œdema of the feet, and every time he vomits thus copiously the swelling goes down, as though there was a transudation from the blood into the stomach during or succeeding the vomiting."

On December 15 I have this note: "Mr. C.'s symptoms slowly grow worse; scarcely a day passes that he does not vomit large quantities. The tumor can now be distinctly felt to the left of the median line above the umbilicus, between this and the free edge of the ribs. The dulness is also extending a little to the right of the median line."

On January 12, 1880, the left leg, which, together with the right, had become very thin, began to swell, and soon acquired enormous dimensions, with pain along the course of the femoral vein. The involvement of the single leg, the pain, the degree of the swelling, forced me to the conclusion that it was of embolic origin. At this time, also, the pain in the region of the tumor became severe, and the skin over the whole epigastric and left hypochondriac regions was evidently raised by the tumor. Under the use of bandages the œdema completely disappeared except in the foot and lower leg, in which it remained, in common with that in the other leg.

On February 18, 1880, we began to administer nutritious enemata, first resorting to milk and milk and egg together, beginning with half a pint morning and evening. We soon added, indeed almost completely substituted, the preparation of pancreas and chopped meat suggested by Professor Mayet, of Lyons, in the *Gazette Hebdomadaire* for November 21, 1879. The pancreas (one-quarter pound) was bruised alone by means of an old-fashioned potato-masher; this was then thoroughly mixed with half a pint of tepid water in which a raw egg was beaten up; this was then placed in a saucepan with one-half pound of finely-chopped lean meat, and placed on the back part of the range at a temperature of 100° F., where it was allowed to remain two hours. The resulting mass was then strained through a cloth, and six ounces by weight (being about one-half) injected; the remainder was injected twelve hours later. Thus an easily-soluble, *partially-digested* substance was injected, unaccompanied by débris of a kind which could irritate the rectum or interfere with absorption. The result, so far as absorption was concerned, was perfect. The functions soon so adjusted themselves that everything injected was retained, and a typically normal passage from the bowels obtained daily.

The nature of the malady was such, however, that no practical advantage was derived from this method of nutrition beyond, perhaps, a short prolongation of life. He grew weaker, and died March 8, 1880. For two days before death his condition was most distressing. If not actually vomiting, he was the victim of an intense and unceasing nausea, and even a short time before his death he insisted upon placing his finger in his fauces to produce vomiting.

The post-mortem examination was made March 10. The body was, of course, extremely emaciated. The abdominal cavity alone was examined. On laying back the abdominal walls, a hard, round tumor, apparently ten centimetres in diameter, was found, occupying the situation so often defined on percussion, just above the umbilicus, mostly to the left, but partially also to the right, of the median line. This, on closer examination, was found to be in the pyloric end of the stomach, projecting altogether into the cavity of the organ. The liver was adherent by its under surface to the corresponding external surface of the stomach, and the portion of the organ thus attached was removed, and is seen with the specimen, but the cancerous growths seemed to be altogether of the mucous or inner surface of the stomach. On laying open the stomach, the pylorus appeared to be occupied by a large white ball eight centimetres in diameter, but perforated in its middle by an opening sufficient to admit the little finger. The stomach itself was enormously dilated, and filled with at least a gallon of thin, slightly-colored fluid. It seemed as though the fluid would never be emptied through the very considerable opening which I made. There appeared to be no ulceration of the stomach, and, although the surface of the tumor was uneven, suggesting the external contour of a cauliflower, there was no ulceration.

Specimens II., III.—The second and third specimens presented, representing carcinoma of the stomach with carcinoma of the liver, the latter probably secondary to the former, were derived from J. B., a male patient aged 50, admitted to the Philadelphia Hospital, March 29, 1880. He was an Irishman, was in the army during the late war (1862), had been variously occupied as a laborer, and immediately before his illness had been working in a large boarding-house. He had been very intemperate, had had *mania a potu* and, while in the army, intermittent fever, but otherwise had enjoyed good health until his present illness. He was not aware of an instance of cancer in his family.

About March 1, 1880, he began to suffer from nausea, and a little later to vomit his food. He himself sought relief by eating less, taking but two meals a day. Burning pain and acid-bitter eructations were constant. On admission he was emaciated, feeble, sallow in appearance, and vomited constantly. He frequently caused himself to vomit at night in order to relieve the burning pain. The matter vomited never contained blood, nor did it exhibit the "coffee-grounds" appearance so often described. All food was retained for some time before it was vomited, as we learned by observations, for he himself said that he vomited immediately after eating. Milk was best retained. He was not jaundiced, had not been, and did not become so before death. There was pain upon pressure, most marked at a spot two inches below and to the left of the ensiform cartilage, but tenderness existed over the entire region of the stomach and liver. Palpation also revealed an uneven nodular surface in the portion of the epigastrium occupied by the liver, but distinct physical signs of a tumor of the pylorus were wanting. This fact, taken in connection with the man's early statements that he vomited immediately after eating (which our own experience subsequently proved to be erroneous), caused us at first to suspect that there was cancer at the cardiac orifice. Later, however (April 27), the signs of tumor both of the stomach and liver became more distinct. The latter organ enlarged rapidly, although it did not attain the size sometimes reached; the lower border was bounded by a line extending from a point one inch above the crest of the ilium through another two inches above the umbilicus. The peculiar bossillated feel of the cancerous organ was evident through the thin walls of the abdomen. The position of the tumor of the stomach, although not fixed, was that most usual for cancer of the pylorus,—the neighborhood of the umbilicus. There was evident dilatation of the stomach, the greater curvature of which extended almost to the crest of the left ilium.

No treatment was of service. We washed out his stomach with a siphon-tube, but it gave him no relief: indeed, he complained of faintness after the operation. As much as four quarts of water were introduced at a time, with a view to measuring the degree of dilatation. Enemata of milk were used, but failed to prolong his life, and he died May 11, 1880.

The autopsy was made twelve hours after death, by my resident physician, Dr. William S. Long, to whom I am also indebted for the notes whence this history is taken. Emaciation was extreme, the abdomen scaphoid. Above the umbilicus were evident through the thin abdominal walls several slight prominences, and a ridge extending from the crest of the right ilium to the floating ribs of the other side,—the lower border of the *liver*,—as was confirmed on laying back the abdominal walls. The liver weighed five pounds fifteen ounces, and was a beautiful illustration of disseminated nodular cancer of that organ. Scattered over the upper and anterior surface were no less than thirty-five nodules, ranging from two millimetres to twelve centimetres in diameter. They were opaque-white, and in almost every instance typically umbilicated. It was these which could be seen and felt through the abdominal walls. The neighboring lymphatic glands were somewhat enlarged, but there were no adhesions between the liver and any other abdominal organ.

The *stomach* was only partially visible below the edge of the liver. The pylorus lay behind the liver and in the median line, and was the seat of the spherical growth exhibited, somewhat smaller, but in other respects similar to that of the first specimen. The stomach was dilated, and contained about a pint of partially-digested food of the consistence of gruel. The pyloric orifice was much constricted.

The *kidneys* were smaller than usual, but the capsule was easily stripped off. On section, the organs appeared somewhat fatty to gross examination.

The *heart* was small, but its valves were normal.

The *brain* weighed forty-one ounces. There was an area of superficial softening three metres across at the base of the left frontal convolution, and a similar one at the base of the left sphenoidal convolution.

Specimen IV.—The fourth specimen, also of carcinoma of the stomach, was taken from a German baker admitted to the Philadelphia Hospital, December 11, 1879. His symptoms appeared about ten months before admission, and were described by himself as a "choking sensation" at the pit of the stomach when taking food, which he immediately vomited, whether liquid or solid. This condition was not, however, suddenly acquired, but gradually, and he was able to work for some time after the first symptoms appeared. He emaciated greatly, and on admission he was wan and thoroughly cachectic in appearance. A few days after admission his feet began to swell, but, on examination, his urine was found normal. This swelling subsided when he was put to bed, but immediately recurred on rising. A liquid diet was well retained, but he constantly complained of a lump in the epigastrium. Physical examination discovered no signs of a tumor, while an œsophageal bougie passed with but slight resistance at the cardiac orifice. Much relief to his distressing sensations was apparently afforded by a powder containing gr. viii of saccharated pepsin, gr. v of subnitrate of bismuth, and gr. ¼ of calomel, but he gradually failed, and died March 16, 1880, while I was temporarily off duty.

The post-mortem examination discovered the stomach now presented. The members of the Society cannot but be impressed by the contrast it bears to the other specimens exhibited this evening. The extensive ragged ulcer, with sloughing floor, extending over nearly one-half of the surface of the organ, which is itself reduced rather than increased in size, is a conspicuous feature. This reduction in the size of the stomach, accompanied by a reduction in its cavity, is ascribed to a contraction and retraction of the submucous tissue of the organ in the vicinity of the carcinomatous growth, the exact histo-genesis of which is not thoroughly understood, although Rindfleisch* says he feels convinced that the pre-existing tissue is really in some sort used up, and that the scirrhous growth represents the quantity of connective tissue so employed.

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* Sydenham Society's Transl. of 1872, vol. i. p. 462.

As to the histology of these specimens, the first two are examples of hard cancer of the pylorus, the nodules in the liver of the second case being also of the same nature. The third specimen had been so carelessly kept before it fell into my hands that it was impossible to make out its minute structure; from the macroscopic appearances, however, the specimen is probably one of soft cancer.

Dr. HENRY said that the question of the disease being leukæmia, which had arisen in an early stage of the history of this case, and had been decided affirmatively, would have been decided negatively by a count of the blood-cells. The appearance of an increase in the white cells was deceptive. They might have been absolutely diminished in number and relatively increased. In a recent examination of blood which he had made, Dr. Henry had experienced the same difficulty in obtaining a drop of blood from the finger-pulp. The drop was exceedingly pale, and when drawn into the fine capillary pipette, used in the examination, it resembled serum. The case was one of supposed pernicious anæmia, but had been supposed to be leukæmia by a previous observer, who had examined the blood by placing a drop of blood on a glass slide. The white cells were *relatively* increased. An examination with the hæmacytometer showed an actual diminution in the number of the white cells, and by far the smallest number of red cells Dr. Henry had ever encountered, their number per cubic millimetre being only five hundred and twenty-five thousand, the normal number being about five millions. At the time of the examination of this case Dr. Henry had under his care a case of cancer of the pylorus, in which, for purposes of comparison with the former, he counted the blood-cells. The patient was a female between fifty and sixty years of age. She was excessively pallid and greatly emaciated, the skin being wrinkled from loss of fat in various parts of the body, especially over the abdominal walls. Food was seldom retained for any great length of time, vomiting being of daily occurrence. Notwithstanding, the blood-cells were much more numerous than in the case of pernicious anæmia, more than three times as numerous. A count showed one million seven hundred and fifteen thousand per cubic millimetre, and also a slight diminution of the white. If examined in the ordinary coarse manner the white cells would have seemed to be increased in number in this case also. The object of these remarks is to show the impossibility of making a correct diagnosis in many cases of blood disease without the use of the hæmacytometer.

(To be continued.)

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF NOVEMBER 3, 1879.

ADDINELL HEWSON, M.D., temporary PRESIDENT, in the chair.

RESECTION OF THE HEAD OF THE HUMERUS FOR GUNSHOT WOUND.

DR. T. G. MORTON presented a specimen of comminuted fracture of the head of the humerus, with a part of the shaft of the bone, which he had resected on account of a gunshot wound.

Michael T., a miner, aged 21, was admitted into the Pennsylvania Hospital, October 3, 1879. He had been hunting the day before, and when getting over a fence the hammer of the gun caught in the rail and the entire contents were discharged into his left shoulder. Hemorrhage was profuse, but he walked to his home (some two and a half miles), where the wound was packed and morphia was administered. The following morning he drove three miles over a rough road to the depot, and came to the hospital, arriving about 3 P.M. There had been considerable oozing from the wound since the accident, so that when received he was very pale; pulse small, weak, and rapid; temperature, 100½°. A little to the inside of the left shoulder, and on a line with the middle of the joint, there was a wound about the size of a silver dollar, the direction of which was upward, backward, and outward. The finger carried in came at once in contact with comminuted bone, and it was evident that the charge had passed in as a mass, and had separated the head of the humerus from the shaft. There was not a single shot through the other side, but the mass of No. 5 shot lodged underneath the integument.

An L-shaped incision was made, which reached from the outer edge of the gunshot wound to the middle of the deltoid muscle. The longer arm extended down the arm in a line with the humerus about four and a half inches. The tissues were dissected from the shaft of the humerus, which was divided about two inches below its anatomical neck. Three vessels required ligation in the posterior flap. The head of the bone was found broken into four large and several smaller pieces, all of which were removed. A piece of shirt, some wad, and a large number of No. 5 shot were also removed. The long head of the biceps flexor was intact. The L-shaped incision was converted into a T by prolonging the short arm, to allow drainage to occur at this point, as the tissues surrounding were much lacerated. A tent was placed from cavity of joint to outer arm of T-incision, and the wound was dressed with carbolized charpie, over which a towel was placed and several loose turns of roller applied.

December 1, 1879.—Patient made an excellent recovery, not having experienced a bad symptom.

MODIFIED ANEURISM-NEEDLE.

Dr. J. H. Packard presented a form of aneurism-needle which he thought could be used with advantage in dealing with deep-seated arteries, such as the iliacs or subclavian. It consisted simply of a strongly-curved blunt needle, roughened at the tip so as to be readily seized with a pair of forceps. The idea was to grasp it, armed with a ligature, in a well-constructed pair of catch-dressing forceps at any desired angle; to insinuate it under the artery; to grasp it with another pair of forceps, and, disengaging the hold of the first pair, to draw it through.

No inconsiderable difficulty is often found, in using the ordinary aneurism-needle set in a handle, in getting hold of the ligature so as to draw it through. Dr. Packard had recently experienced this in ligating the external iliac, and had seen it occur to other operators in the case of this and other arteries. A well-made forceps or needle-holder would enable the surgeon to use such a needle as the one now exhibited with perfect ease, and with all the force and steadiness necessary.

This needle had the additional advantage of being readily carried in the pocket-case, so as to be at hand in case of emergency, which could not be done with the double-curved aneurism-needle set in a handle.

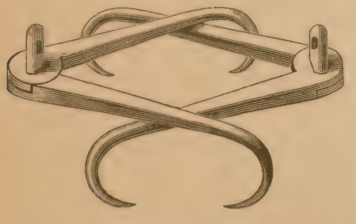
Dr. R. J. Levis called attention to the fact that a similar needle had been devised by Physick for ligating deeply-seated arteries.

MEETING OF FEBRUARY 2, 1880.

S. D. GROSS, M.D., PRESIDENT, in the chair.

A CASE OF FRACTURE OF THE PATELLA, SHOWING THE USE OF A MODIFICATION OF MALGAIGNE'S HOOKS.

Dr. T. G. Morton brought before the Academy a patient who three weeks previously had sustained a transverse fracture of the patella, and who was undergoing treatment by means of the modified Malgaigne hook devised by Dr. Morton (see figure). The hooks had been applied ten days previously (while the patient was etherized), and now held the fragments in firm apposition without causing any trouble. The apparatus should always be adjusted under ether, as considerable pain is produced at the time the points are inserted; and it is well to wait a week or more after the accident before applying the hooks, in order that the irritation produced by the injury and fracture may subside. Before the patient recovers consciousness, after the fragments have been drawn together, a straight posterior splint should be applied, to prevent flexion of the knee. During or at the end of the third week the hooks generally become more or less loosened, and may then be removed; the wounds caused by the points of the instrument close at once. Occasionally it has been found necessary to tighten the screw, consequent upon subsidence of swelling. Subsequent to the removal of the hooks the limb should be kept immovable in a silicate dressing for several weeks.



The hooks are so arranged that after the points are inserted into the tendinous tissue over the bone the upper hooks are drawn down towards the lower ones, which do not move. The points are not believed to penetrate deeply enough to be inserted into the bone itself. Dr. Morton and his colleague, Dr. Levis, have treated, at the Pennsylvania Hospital, with various forms of hooks, a large number of cases, and have had excellent results. He had only seen one instance in which the points seemed to produce irritation. In that case it had been necessary to aspirate the joint on two occasions during the preliminary treatment before the hooks were applied, and he therefore removed them when he found that fluid had again collected, soon after the apparatus was applied.

This form of dealing with fractured patella gives very close union. Many of the ordinary appliances used in the treatment of fracture of the patella, consisting of bandages and straps, etc., are believed to interfere with the nutrition of the patella, and thus increase the chances of non-union.

Dr. R. J. Levis highly approved of this method of dealing with transverse fractures of the patella, and had frequently employed it.

Dr. John B. Roberts mentioned a case where an abscess over the patella occurred during the treatment of a broken patella by Malgaigne's method. The knee had been greatly contused at the time of the receipt of injury, which might have been the cause of the suppuration. Another case was referred to in which the bone was subsequently accidentally refractured, though the union was perfect at the time of dismissal. This, of course, might occur with any fracture.

AVULSION OF THE SCALP.

A large portion of scalp torn from a girl's head by machinery was shown by Dr. T. G. Morton. The patient had frequently allowed a revolving shaft driven by steam to curl her hair, but on the last occasion had permitted too much of the hair to become encircled around the shaft. She had been thrown around in a circle several times, when seized by a man and held. As a result the scalp was torn from the head. The line of wound began at the right ear, crossed the face, separating the tissues between the eyebrows and margins of the lids, and continued through the left ear down the neck, and, finally, upward in an oblique direction to the right ear. In addition, there was a piece of scalp as large as the palm of the hand torn out from over the vertex. The scalp was carefully stitched in position, but sphacelation of tissue rapidly occurred. Death took place in thirteen hours. It is probable that some brain injury coexisted.

BROMIDE OF ETHYL.

Dr. R. J. Levis presented two specimens of bromide of ethyl which he had employed in producing anæsthesia, and stated that there was a difference in the quality, as one possessed an offensive odor which was absent in the other. He asserted that he had elsewhere recorded his experience with this anæsthetic agent.

MEETING OF MARCH 1, 1880.

HYDROCELE.

Dr. Samuel Ashhurst mentioned a case of hydrocele in which the sac had, after tapping, refilled in about two weeks. The fluid drawn was clear at first, but afterwards a little blood had escaped. It seemed to him that this was a more rapid reaccumulation than usual.

Other Fellows, however, referred to cases where there had been filling of the sac in from seven to ten days.

In referring to the radical treatment by injection of irritating fluids, Dr. D. H. Agnew stated that he had had an opportunity to dissect a case of hydrocele about four months after cure by injection. The tunica vaginalis had its surface covered with lymph, looking like the pile of velvet, but there was no obliteration of the cavity. He also mentioned an instance of scrotal disease which came to him for treatment, in which a previous attendant had performed tapping and injection of iodine, though there was no fluid. The inflammation produced by the iodine thrust into the subcutaneous tissue caused the scrotum to present a fungating mass resembling cancer.

JOHN B. ROBERTS,
Recorder.

GLEANINGS FROM EXCHANGES.

A CASE OF ACUTE HYSTERICAL VOMITING OF TEN MONTHS' DURATION CAUSED BY DISPLACEMENT OF THE UTERUS.—The case was related by Dr. Graily Hewitt at a recent meeting of the Clinical Society (*Med. Press and Circular*, June 2), as a typical and extreme instance of an affection not uncommon in gynæcological practice. The patient was a young lady, æt. 20, under Dr. Graily Hewitt's care at the All Saints' Institution for Ladies Suffering from Illness, 127 Gower Street. She had always been very active, but not accustomed to take food in fair quantity,—much the reverse. Menstruation before onset of illness irregular. *Present illness* dated from February, 1879, ten months prior to admission. Since that date there had been a gradually-increasing severe and constant sickness. She had for some time been unable to retain food in the stomach. Took only a small quantity of koumiss. Menstruation had entirely ceased for ten months. There was very extensive emaciation. She believed she had lost four stones in weight during the past year. Sleep—none; all attempts to walk produced exaggeration of symptoms; weakness very great. Previous medical attendant had, it was stated, surmised existence of uterine displacement. *Condition on Admission*, December, 1879.—Constantly sick. Pulse very feeble. Commencing bed-sore over sacrum. Uterus low down in pelvis, much swollen, and in a condition of acute anteversion, with considerable flexion; uterus wide from side to side. The sickness was considered due to this displacement. Later on it was elicited that just before sickness began patient had jumped from a height of six feet, and felt sick after it. Probably the uterus was displaced by this leap. A friend of the patient's took the same leap, and was also made sick, but laid up for it and recovered, whereas this patient did not. *Treatment.*—Nutrient enemata thrice daily. Patient to be placed in knee-and-elbow position every hour for two or three minutes. At end of week, improvement; sound now used and uterus elevated; slight temporary increase of sickness, then much improvement. Cradle pessary at end of fortnight introduced, and since retained undisturbed. After this time food began to be tolerated by stomach; sickness entirely gone at end of third week. Afterwards improvement rapid; appetite, sleep, and general condition all good. Pulse changed from 50 to 80. After fourth week patient literally ravenous. Seven weeks after admission discharged. Weight increased two stones during stay in institution. Menstruation subsequently returned. General health and strength and activity quite restored. The uterus was weak at the time of the leap. It became severely displaced. The displacement set up in a reflex way sickness. Reposition of the uterus at once relieved the sickness.

TREATMENT OF STRANGULATED HERNIA WITHOUT OPERATION.—At the late meeting of the Illinois State Medical Society (*N. Y. Med. Record*, vol. i., 1880, p. 673), Dr. Hills spoke of the treatment of strangulated hernia by stretching upward with the thumb the ring at the point of obstruction and enlarging it,—the thumb carrying before it, of course, the integument and subcutaneous tissue. He was himself the author of this treatment, and had used it in over a hundred cases successfully, and no need had been found for the cutting operation. He thought operations on strangulated hernia need rarely or never be made.

TONGA, A NEW REMEDY FOR NEURALGIA.—Under the name of "tonga," says the *British Medical Journal* (vol. i., 1880, p. 929), a new remedy for neuralgia has recently attracted a good deal of attention in the medical profession. Some months ago Mr. Ryder, a gentleman residing in Fiji, brought home a drug used by the Fijians in cases of this malady (*London Medical Record*, April 15). It was brought in the form of small, broken fragments, consisting of a mixture of woody fibre, bark, and leaves, broken up into such small pieces as to make it almost impossible to identify any portion botanically. This broken vegetable matter was tied up into spherical bundles, each about the size of an orange, covered with a wrapper consisting of the fibrous ensheathing base of the leaves of the cocoanut-palm.

Notwithstanding the broken state of the drug, Mr. G. M. Holmes, the curator of the museum of the Pharmaceutical Society, has (*Pharmaceutical Journal*), after careful examination, arrived at the conclusion that the principal component part of the contents of the bags is the stem of an aroideous plant, a species of rhaphidiphora, probably rhaphidiphora vitiensis. The mode of preparing a draught of tonga for use is extremely simple. The bundle while still closed is to be allowed to soak in cold water for ten minutes; the liquid is then to be squeezed out into a tumbler, and a claret-glass of the infusion taken three times a day about half an hour before each meal. The bundle is to be dried and hung up in a dry place, and can be used several times for a year.

Experiments made in its administration by Dr. Sydney Ringer and Dr. Murrell in eight cases proved successful: in six it acted very promptly, one was much improved, the other was not affected. The peculiarity of the action of the drug is its rapid action on the nerves; it does not affect the pupil when topically applied, or increase or lessen either perspiration or saliva.

TRUE AND FALSE KELOID.—A committee of the London Pathological Society (*Lancet*, vol. i., 1880, p. 952), appointed to investigate a case of keloid presented to that Society, report, as the result of varied observations, that the great majority of cases of keloid met with clinically originate in scars. The cases reported as spontaneous cannot be disproved, but it is possible that some of them, like other recorded cases, may have originated in minute scars; and the committee purpose, therefore, to regard it as a disease of scar-tissue, and to discard altogether such terms as true and false keloid. They are, however, of opinion that it is possible that there are conditions which may morphologically be allied to keloid, and which are more deeply placed. It does not appear that any marked differences can be maintained between keloid proper and syphilitic keloid. When present in syphilitic scars, it is only less well pronounced than when occurring in simple scars.

Other observations follow upon the duration of keloid, and some interesting cases not hitherto recorded are presented in the report. They conclude by referring to the pain of keloid, the manner of its appearance, and the time of life at which it most often appears.

TREATMENT OF PARAPHIMOSIS.—Bordinet treats paraphimosis as follows. He takes a hair-pin, presses the points together somewhat, and inserts the curved end under the strangulation back of the glans. He next applies a second and a third at intervals around the glans; then, drawing the prepuce forward, reduces it with great facility, the skin gliding over the three bridges without obstruction.

BROMIDE OF POTASSIUM IN DOVER'S POWDERS.—Dr. Chisholm, in the *Ohio Medical Recorder*, advocates the substitution of the bromide of potassium for the sulphate in Dover's powder, and states that the efficiency of the powder is greatly increased by the substitution.—*Chicago Medical Gazette.*

ARSENIC.—James Startin (*Lancet*, December 27, 1879) reports a case where Donovan's solution produced a vesicular and bullous eruption over the hands, attended with considerable itching and much perspiration.

MISCELLANY.

EARLY VIABILITY.—In the *Archives de Tocologie*, Professor Bailly reports the remarkable case of a viable infant at the age of 6 months and 20 days. The mother had a miscarriage at the beginning of 1877, after which menstruation became regular, taking place for the last time from July 3 to 9, 1877. On January 28, 1878, she gave birth to a male infant. This was wrapped in wadding and kept in an artificial temperature. It was fed at first by diluted cow's milk, and afterwards with its mother's milk, being unable to suck at first. At its birth the ring of its father passed over its foot to near the knee, and on the thirteenth day the infant weighed 1250 grammes. At the end of a week it began to take the breast. At the date of this report, December, 1879, the child had sixteen teeth, weighed ten kilogrammes, walked with agility, could pronounce some words, and was as intelligent as other children at that age.—*Med. Press and Circular.*

SAVING TIME.—Dr. Clemenceau, the eminent French physician and member of the Legislature, is remarkable for his quickness in the despatch of business. Two men entered his consulting-room simultaneously the other day. The first, in reply to "What is the matter?" said he had trouble in the chest, and was ordered to take off his shirt. While prescribing, the doctor ordered the other visitor in, and said, "Just take your shirt off, too; it will save time." He immediately did so, and by the time the doctor had written the prescription for the first man and received his fee he was stripped to the waist. "You are suffering from pain in the chest, too, are you not?" "Well, no," said patient No. 2; "I come to beg you would recommend me for a place in the post-office."

MEAT-BREAD.—Yet another invention, says M. de Parville, in the *Journal des Débats*, is meat-bread. Usually, when we eat we take the trouble of digesting at the same time our bread and our meat. Some one has conceived the idea of saving all this double work. M. Scheurer-Kestner has found the means of compelling the bread to previously digest the meat; that is so much gain for the stomach. And then what a simplification! instead of concerning oneself with providing beefsteaks, chops, etc., there is nothing to do but provide the bread. The method is expeditious, and will be of importance to the soldier in campaign, the hunter, and the traveller.

SALICYLIC ACID PLUGS FOR ARMY USE.—In case of the mobilization of the German army, each soldier receives two salicylic acid plugs of different dimensions, which he may, if wounded, himself introduce into the wound. These plugs consist of a piece of gauze of fifteen to sixteen square centimetres, in which is rolled one or two grammes of salicylized wadding. They are made pretty loose, so as to take any desired form. The salicylized wadding is prepared thus. A solution is made of one hundred and ten grammes of salicylic acid in three and a half to four litres of alcohol at 95°, and forty grammes of castor-oil or glycerin added. Dry carded cotton is immersed in the mixture till thoroughly impregnated; then it is hung up to dry in a heated room.

POST-MORTEM EXAMINATION OF THE STOMACH.—Dr. Damaschino lately described to the Biological Society of Paris a method of preserving the stomach after death. It is almost impossible to make a necropsy within twenty-four hours after death, and during that time the stomach undergoes changes due to the action of the gastric juice and to the decomposition of food. He thinks that this can be obviated by filling the stomach with alcohol of eighty-six per cent. one or two hours after death. Besides its antiseptic properties, the alcohol hardens the tissues and renders them much more advantageous for microscopic investigations. The mucous membrane is rendered a little paler in color.

AN ACTIVE OLD MAN.—Professor Chevreul, the distinguished chemist, recently began his regular annual course on chemistry in the Paris Museum of Natural History. The old gentleman is in his ninety-first year, and this is the fiftieth year of his professorate.

CONCENTRATED SOLUTION OF SULPHUROUS ACID.—Professor Gamgee says that cold alcohol will dissolve three hundred times its own volume of sulphurous acid gas, and a fluid possessing such powers of concentration cannot but be as efficient as it is portable and convenient.

MESSRS. MACMILLAN & COMPANY announce as in preparation for early issue in the fall a treatise on "Food for Invalids," by J. Milner Fothergill, M.D., of London, and Professor H. C. Wood, M.D., of Philadelphia.

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NOTES AND QUERIES.

AMERICAN DERMATOLOGICAL ASSOCIATION.

AT the fourth annual meeting of the American Dermatological Association, which will be held at the Ocean House, Newport, R.I., on the 31st of August and the 1st and 2d of September, 1880, the following papers will be presented: Tumors of the Skin, by Dr. C. Heitzmann; Papilloma Cutis, by Dr. W. A. Hardaway; Medicinal Eruptions, by Dr. A. Van Harlingen; Ainhum (for Dr. Da Silva Lima, of Bahia), by Dr. J. N. Hyde; Date of Evolution of the Erythematous Syphilide, by Dr. R. W. Taylor; Treatment of Eczema of the Hands, by Dr. L. D. Bulkley; Experiments on Epilation, by Dr. C. Heitzmann; Kerion Stage of Tinea Tonsurans, by Dr. I. E. Atkinson; Pityriasis Maculata et Circinata, by Dr. L. A. Duhring; Case of Phlyctenular Eruption of the Face and Hands, by Dr. A. Van Harlingen; Case of Lichen Planus first appearing on the Penis, by Dr. L. D. Bulkley; Scleroderma, by Dr. J. E. Graham; Herpes Progenitalis, by Dr. F. B. Greenough; Notes on Xanthelasma Palpebrarum, by Dr. R. W. Taylor.

PROFESSOR H. C. WOOD,
EDITOR *Medical Times*:

DEAR SIR,—Please to correct an error in my article on "*Hygienic and Therapeutic Relations of House Plants,*" which appeared in your journal bearing date May 8, 1880, viz. (page 400), instead of "one and a half ounces (by weight) of watery vapor per square foot of leaf-surface for twelve diurnal hours of clear weather" read "one and a quarter ounces per square foot of leaf-surface," etc.

I remain, very respectfully, etc.,
J. M. ANDERS.

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OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JULY 25 TO AUGUST 7, 1880.

WEBSTER, WARREN, MAJOR AND SURGEON.—His leave of absence extended one month, provided he furnishes satisfactory medical attendance during his absence. S. O. 124, Department of the East, July 27, 1880.

KING, WILLIAM H., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for one month, with permission to apply for an extension of three months, on Surgeon's certificate of disability. S. O. 87, Department of Dakota, July 21, 1880.

COMEGYS, E. T., CAPTAIN AND ASSISTANT-SURGEON.—So much of S. O. 135, c. s., from these Headquarters, granting him leave of absence on Surgeon's certificate of disability, is revoked. S. O. 144, Department of Texas, July 19, 1880.

BENHAM, R. B., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Having reported at these Headquarters, is assigned to duty (temporary) at Fort Snelling, Minn. S. O. 87, c. s., Department of Dakota.

GORGAS, W. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—To report to the Commanding Officer, Fort Clark, Texas, for duty. S. O. 147, Department of Texas, July 23, 1880.

STRONG, NORTON, FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at Fort Douglas, Utah. S. O. No. 70, Headquarters, Department of the Platte, July 31, 1880.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, AUGUST 28, 1880.

ORIGINAL LECTURES.

CLINICAL LECTURE
ON CANCER OF THE UTERUS AND ABDOMINAL TUMORS.

BY WILLIAM GOODELL, M.D.,
Professor of Clinical Gynæcology in the University of Pennsylvania.

Reported by CHARLES W. DULLES, M.D., Surgical Registrar to the University Hospital.

CANCER OF THE UTERUS.

GENTLEMEN,—The first case I show you to-day is one of cancer of the uterus. The diagnosis has been fully established, and I am now going to operate for her relief. We shall not cure her; it is too late for that; but we shall relieve some of her symptoms, lessen her pain and the offensiveness of her discharges for a while, and perhaps add something to her life. I have just seen a case where five years ago I did the operation I am now about to do, thinking at the time that the woman could not live many months, but it is only now that she has a return of her trouble. So the operation is entirely justifiable.

This case is not one for amputation of the cervix, for two reasons. The disease has invaded the body of the womb, and it has eaten away the anterior lip of the cervix, so that the surface is slanting and we could not fix a wire.

I am going to operate by tearing away with my fingers as much as I can, and then scraping with this large spoon-shaped curette. First I bring away a piece about as big as an egg, then many smaller and shreddy pieces; then I use the curette. I scrape carefully, but firmly, guarding and guiding the progress with the fingers of my left hand. Then I take these forceps, which are a good deal like those with which the head of a hare-lip pin is snapped off. They are hollow and ball-shaped at the end, and have sharp edges inside, so that they cut through the tissues and bring the cut-off parts away.

We have not much hemorrhage, which I attribute partly to the scraping; but we have some. So I shall control this, and conclude the operation, by searing the whole raw surface with the Pacquélin cautery heated to redness. If any hemorrhage comes on later, it is to be controlled by putting into the vagina a sponge soaked in vinegar.

Now, what is the prognosis? Very bad. This woman will die. She may get better for a while, but in the end the cancer will return in the womb, or the parts about it, or perhaps at a distance. It may attack the rectum; but, fortunately, these cases generally are released by death before this happens or goes very far. Their system breaks down under the drain of the discharges and the general poisoning by absorption, and they escape the additional horrors of cancer of the bowel.

TUMORS—DIAGNOSIS.

We have here two cases of abdominal tumor, which have been sent by physicians for operation. I have never seen them before. They are not cases for operation to-day, but for diagnosis. I have had them brought into the arena and placed side by side, so that you may see me examine them together.

Case I.—The first is this German woman, with a belly as large as that of a woman at full term, who has also a curious swelling on top of the general tumor. It is soft, and when I squeeze it it collapses. It is an umbilical hernia. When I get her to strain it reappears. Now I will percuss the abdomen. If we have here an ovarian tumor I shall expect to find dulness in front, low down in the abdomen, and resonance over the upper abdomen and the flanks. But I do not! On the contrary, I cannot get resonance anywhere. The whole abdomen seems to be occupied by a fluid. But I do not think it is an ovarian cyst, for another reason. You see when I press with my finger I can push it and the belly-wall far in. I never found I could do this in an ovarian cyst except after tapping. I do not think this fluid is ovarian. I will next examine her heart. Now, I do not want to take more credit to myself than I deserve; so I must tell you that my assistant, Dr. Baer, has examined this woman and told me she has cardiac disease. So I find. There is considerable valvular disease here. Now, that makes me ask another question of the woman. Did she ever have rheumatism? She tells me yes,—seven years ago; also that she has had a shortness of breath, which has caused her a great deal of trouble. On examining by the vagina I find a little prolapse of the womb, with a trifling retroversion, which usually accompanies prolapse. This is because the womb in descending follows the curve of the sacrum. In its natural position it has a slight anteversion, but as it comes down it turns over backward.

There is no other trouble that I can find about the womb, and so I will turn the case over to the medical wards as an abdominal dropsy due to cardiac disease.

Case II.—Now, our second case looks different. That abdomen, you see, is rather flaccid and flat; this is round and tight as a drum. The woman tells me she has never had any children, but here are lineæ albicantes on the abdomen. They have been caused by the stretching of the walls by the tumor. She says the swelling has been two years and six months in coming, but that she always had some sort of a tumor here. Her menses have been irregular for more than two years. On percussing the abdomen you hear just the opposite of what you did in the other case,—everywhere tympanitic resonance. I cannot find any dulness, except, perhaps, a trifle on the left side, low down, near Poupart's ligament. The patient is very nervous; she cries out frequently when I know I am not hurting her. When I palpate I get a sort of ballottement, which is very curious. It feels like a solid body in a bag of air. Now, I'll tell you what enters my mind. I am thinking out loud. I think of a phantom tumor. But I shall examine further. When I put my finger into the vagina the woman cries out again and again, and I know it is because she is nervous; she is afraid I am going to do some operation; she will not believe me when I tell her I am not. I find that the cervix is obliterated,—that is, it does not protrude into the vagina. It is drawn up, and I cannot feel it at all. I find the os, however, very small and hard to discover. I am sure an unpractised finger would miss it. Now, when I introduce the uterine sound I find the womb three inches long and inclined towards the left side.

The drawing up of the cervix, let me here tell you, is a sign of malignancy. I tell the woman to shut her eyes, and now uncover her face, so that you can see it. There, gentlemen; that face also tells a story of malignancy. See those sunken eyes and hollow cheeks. This is a very different case from the first.

I send the patients out of the room, and can now tell you what I think of the second. I believe she has malignant disease of the womb, or, rather (for I should not say this so fast), of the womb or some of its appendages. She may not have, but I think so now. It is easy to make mistakes in these cases. Both these women came from physicians of skill, and one has been a patient in a hospital in a neighboring city, and both have been sent here with the diagnosis of ovarian tumor in order that we may operate on them. So you see how careful we must be. I do not consider my examination to-day as conclusive. It has been too hurried and superficial. But it will give you an idea how to go about these cases, and how deceptive they may be.

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ORIGINAL COMMUNICATIONS.

A COMPARISON BETWEEN THE AUDIPHONE, DENTAPHONE, ETC., AND THE VARIOUS FORMS OF EAR-TRUMPETS FOR THE DEAF.

Read before the Philadelphia County Medical Society, June 23, 1880,

BY LAURENCE TURNBULL, M.D.,

Aural Surgeon to Jefferson Medical College Hospital, Senior Surgeon Department of Diseases of the Eye and Ear, Howard Hospital, Philadelphia.

SOUND is the motion or tremor produced in the molecules of the extreme filaments of the auditory nerve, or nerve of hearing, vibrating in unison with the sonorous or sounding body. The motions of the sounding body are transmitted in pulses or waves through the air, or whatever other medium it may be, into our ears,—first into the auricle or shell; then to the membrana tympani, through the ossicula, or small bones, to the oval window; and from thence, by means of the labyrinth, semicircular canals, and cochlea, to the auditory nerve. From this nerve it is conveyed to the brain, in which it is perceived as noise, musical note, or articulate speech. Certain bodies facilitate the conduction of sounds directly to the ear; others, by the indirect route, convey it by means of the teeth to the bones of the head and the nerve situated in the petrous portion of the temporal bone.

All are now familiar with the name of "Audiphone," as its virtues were heralded by the press as a great boon to the deaf, and numerous publications, lectures, etc., have been sent broadcast over the land. Numerous experiments have been made, both at home and abroad, to find a cheaper, and perhaps a better, substitute for this object in metal, paper, wood, etc., than the diaphragm of hard rubber, with its fan-like shape and its silken cords to give it a suitable curvature and tension depending on the sounding body, so as to collect the faintest sounds and intensify them and convey them to the teeth. Our unsuccessful experiments and trials with this agent in the case of the deaf-mute have been already reported and published in a lecture before the class of Jefferson Medical College.*

The principle on which all these forms of apparatus applied to the teeth depend is the property possessed by solid bodies of transmitting or conducting sonorous vibrations to the nerve of the ear directly from the bone, which nerve is situated in a bony cavity; and this fact, which has been known for years, is further supported by the experiments of Lucæ and Politzer, published in *Arch. f. Ohrenheilkunde* in 1864, and still more recently by Professor Politzer, of Vienna, in his "Lehrbuch der Ohrenheilkunde" (1879, p. 214). Any one can test for himself, and prove the fact, with the tuning-fork on the head (back or front), shutting up his ears with a plug of any kind; also by the watch held between the teeth. Politzer goes still further, and states that in certain deaf persons words are understood when spoken loudly near the head. Some individuals are stated to hear words spoken near the back of the head. Now, as the auditory nerve is situated in the petrous portion of the temporal bone, we would most naturally infer that the nearer we can get to this bone the better the patient will hear the sound of music or the human voice conveyed to the auditory nerve.

A wooden rod has been suggested and employed to convey sound to the deaf by means of the teeth and bones of the head, and certain kinds of wood are capable of producing musical notes, and are employed to make a musical instrument termed the *claque-bois* of the French. The mode of vibration of a wooden rod fixed at both ends is exactly like that of a string. It vibrates as a whole, and can also divide itself into two, three, four, or more vibrating parts. One of the most interesting instances in which a rod of wood was employed for the relief of deafness was in the case of the celebrated musician Beethoven, who placed one end on the instrument and the other end in his teeth, and in this way was able to enjoy and practise his art by the aid of another performing his compositions for him.

Persons who are only occasionally applied to by the extremely deaf, like the ordinary family physician, are not usually aware of the large number of persons who employ, with great comfort to themselves, the various forms of hearing-trumpets. If we look around in any church-congregation or concert- or lecture-hall, it will be noticed that there are from two to five individuals who use this means of listening, and indeed one or more of these may be met in almost every street-car going in our city. Within the last month I have taken notes of a number, all intelligent and well-educated persons, who have had the opportunity of testing both means of relief to their deafness, and in all but a few cases the hearing-trumpet, in some form, has been preferred. I will briefly report a few cases of this character:

Case I.—I. H., aged 55 years, by occupation a merchant doing a large business, deafness the result of a very severe attack of scarlet fever in his childhood, and has been so deaf ever since as not to be able to hear the speaking voice of any one unless in the very loudest tone. Has employed all the various aids to improve his hearing, but for ordinary conversation and business purposes prefers the conversational tube (see Fig. 16, p. 51, of writer's "Clinical Manual of the Diseases of the Ear"). He has tried the audiphone and dentaphone, but states that he cannot hear, unless the voice of the speaker is so elevated that all his private matters are made known to all around; he also objects to the shape, as being too conspicuous, even in the form of a fan, for a gentleman.

Case II.—Mrs. L., aged 65, a lady of great refinement and cultivation, very active habits, and who lost her hearing after fever following childbirth, nerve deafness, yet can hear her friends if they talk into her ear in a loud tone, and one at a time. Has tried the new apparatus, but would not be seen, she says, with the thing in her mouth all the time. For church and lecture, or opera, she prefers a small pocket ear-trumpet of metal covered with black velvet (as seen in Fig. 18, op. cit., p. 53).

Case III.—R. P., aged 58, a banker, a gentleman of great intelligence and scientific knowledge, and an amateur musician. He was much interested in the invention of the audiphone, and the inventor, Mr. Rhodes, presented him with an audiphone. He is so deaf that persons have to speak to him in a loud tone, and he uses his hand to increase the reflection of sound into his ear, but he cannot use the new apparatus with any satisfaction without having to turn it to each individual, and he states that he hears some words, but others are lost; he suggests that an improvement might be made in it by having the curve to come round on the sides. This patient has been very deaf for many years; his meatus is very narrow, with retracted and thickened membrana tympani. Hearing distance—right ear, much diminished, so that a loud-ticking watch was only heard when pressed against the temple; left ear, only on pressing the loud-ticking watch in contact with the meatus. Can, however, inflate the middle ear through the Eustachian tubes with effort. Enjoys music, and is a good musician; is able to hear the tuning-fork on his head and teeth. The deafness is the result of fever. He is able by means of a hearing-trumpet to enjoy a concert, but would like very much to have some better aid to his defective hearing.

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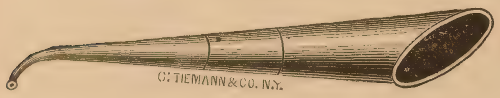
* The College and Clinical Record, March 15, 1880, p. 43.

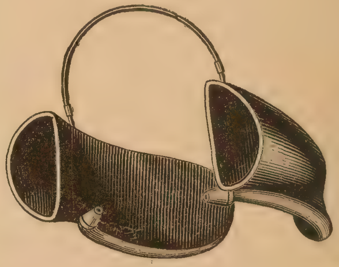
Case IV.—Mrs. I. S., aged 52, general health fair, very deaf both ears, but the right ear most affected; her deafness is of some fifteen or sixteen years' duration. Has suffered for many years from intermittent fever, fourteen-day chills; she has resided for a long period in a malarious region. Has no pain; hears noises of a singing, grasshopper, and at times roaring sound. Voice has a muffled sound, and indistinct. Has been under treatment, but without benefit; had to resort to a hard rubber short hearing-trumpet, like the form figured in Fig. 1, while a portion of the large end is cut out so as to avoid reverberation, as suggested by Dr. Williams, of London. The audiphone in her case can be used about equally well, but only five or six feet, while with the trumpet double the distance, and she much prefers the trumpet for appearances and convenience. The following is a report of her condition. Meatus of both sides dry and irritable; membrana tympani of right side opaque, sunken, and thickened. On the left, the handle of malleus is seen, but no umbo; the Eustachian tubes open, but much narrowed; inflamed and irritable throat; nose irritable; a loud-ticking watch not heard on contact on either ear; tuning-fork heard in the air, and on the teeth and forehead. Politzer's acoumeter not heard until it touches, when she feels the vibration. Inflated the middle ear with hydrobromic ether, which improved the muffled sound, and applied collodion to draw the membrane back to its natural position. Still under treatment.

FIG. 1.


G. TIEMANN & CO. N.Y.

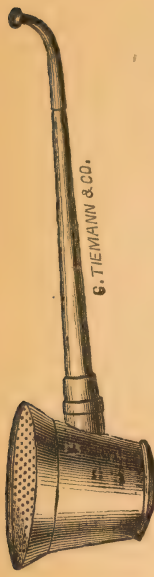
Case V.—L. F. M., aged 18, at school, a bright girl, but very deaf unless spoken to in the loudest tones. General health stated to be good. Both ears affected; left ear most affected; duration eight years. Suffered from measles; then her eyes became diseased, almost blind. As the eyes became better she became deaf; this had been pronounced by physicians to be due to throat-deafness or involvement of Eustachian tubes. Never had any discharge from the ears; has slight singing sounds. Previous treatment, syringing the ears, inflation, etc. Meatus very dry; membrana tympani opaque, white, and thickened; Eustachian tube on both sides open, but narrowed. Diseased nose, throat, and tonsils, which latter were very much injected. Watch (loud ticker) not heard on contact; tuning-fork heard on forehead, occiput, and teeth; acoumeter on contact. With the audiphone and its various modifications can hear the voice, but not what is said to her. Tested her with a pair of improved auricles (see Fig. 2). Was able to hear at any distance, and in an ordinary tone. She also tested them by playing on the piano, and, instead of pounding so that she could hear herself play, she touched with taste and modulation. These improved auricles consist of two ram's-horn-shaped trumpets, connected by an adjustable spring passing over the crown of the head. They are flattened on one side in order to fit closer. The mouth-piece, being above the ear, is pointed forward; the neck passing back and downward close to the ear, tapering towards the ear-piece, which is made of soft rubber. In this case they were very *easily concealed*, as she had an abundance of hair, which she draws over them; or they could be covered with a fancy lace cap.

FIG. 2.


G. TIEMANN & CO. N.Y.

Case VI.—I. C., aged 28, by occupation a machinist. Father and mother both living. His general health good, and very bright. Both ears affected, but the left the more deaf. The duration is eight years; the presumed cause spotted fever, and cold taken when feeble. Slight pain in mastoid region; has a buzzing or whizzing, like letting off steam or whistle of a locomotive. Has been examined and treated both in London and New York. Meatus dry; membrana tympani drawn inward, but not very opaque on either ear; Eustachian tubes narrow, but open. Tuning-fork heard on teeth and top of the head, and in the air; cannot hear a watch of fifteen feet when pressed against either ear. Audiphone and dentaphone, and modifications, were both employed in every way, but he could only hear the sound of the voice, but no distinct articulation. With a large hearing-trumpet of the dipper form (see Fig. 3) he could hear with ease and comfort when the person spoke into the perforated part, even when sitting at table.

FIG. 3.


G. TIEMANN & CO.

Case VII.—Mary I., aged 24, housekeeper, married, father and mother both living. General health not good. Both ears affected, but the right the most. Duration five years. Had specific keratitis from thirteen to sixteen years, with inherited nasal catarrh, etc. Had pain on the top of the head three or four weeks after birth of last child, which was born dead. Glands swollen and abscessed. Has had prolonged treatment of a specific character. Meatus narrowed and irritable; membrana tympani both thickened, white and dry; Eustachian tubes slightly open. Hearing distance, fifteen feet watch on right ear, can just feel it vibrate, but no sound. Hearing distance in left, two and a half inches. Voice very loud and close to the ears. Tuning-fork, right ear, heard in the air, left not. Nose, right side almost closed up with cicatricial tissue and disease of the turbinated bones, involving loss of uvula and tonsils.

The hearing was tested by the audiphone and dentaphone, but neither of these instruments, nor any of their various modifications, was of the slightest use in improving her hearing. With the same hearing-trumpet which was employed in previous case, No. 6, she was able to hear conversation in a loud tone.

Case VIII.—Mrs. I. W., aged 40, residence Pennsylvania. General health fair. Both ears affected, but the left ear the most affected. Duration, many years, the patient states ten years, but on careful inquiry she has been deaf a much longer period. Her husband died of phthisis pulmonalis. The presumed cause of her extreme deafness is catarrh, naso-pharyngeal. Has no pain, no noises, and no discharge, except from the nostrils, which is very profuse every morning. Has been under treatment by various physicians, quacks, Indian doctors, etc. Numerous applications have been made to her meatus, which was very much narrowed. Membrana tympani of left side opaque, but slight reflex. Right membrana tympana very much thickened and drawn inward. Both Eustachian tubes very much narrowed, but open and dry. A loud-ticking watch is not heard in contact with either ear, but very slightly on the bones of the forehead. Tuning-fork heard on forehead, teeth, and top of the head, but not in air.

The patient has ulceration of nasal mucous membrane, turbinated bones swollen and discharging tenacious mucus. Has a sclerosed pharyngeal mucous membrane. This patient's mother was deaf, but it was from injury of drum. This patient was placed under appropriate alterative, tonic, and local treatment, but not given a favorable prognosis. Her hearing was much benefited by the use of the trumpet.

Case IX.—Mrs. P., aged 62, deaf from catarrh of the middle ear about fifteen years. The loudest voice heard only when close to her ear. Her husband has chronic laryngitis from talking to her. Ordinary method of inflation (Politzer) was of no avail; conversational tube of slight benefit; audiphone no results. Auricles before described gave her hearing for moderately loud voice at twenty feet, and for loud whisper at two feet. Large funnel-shaped ear-trumpet not so satisfactory.

Case X.—Mrs. H. B., aged 65, deaf for many years, and can hear the voice when very close to the ear and in a very loud tone; could hear the tuning-fork over the forehead, occiput, and temple. Meatus healthy; membrana tympani of pearly color, and not sunken. Has artificial teeth, which fit well. Her hearing was then tested by the audiphone and dentaphone, but with no improvement, nor did the hearing-trumpet improve this individual's hearing.

Case XI.—Sarah S. M., of Montgomery County, Pa., aged 29; occupation seamstress. Hearing distance, not on contact. Tinnitus (roaring). No discharge. Membrana tympani, right, sunken; handle horizontal, good reflex. Membrana tympani, left, sunken; handle horizontal, good reflex. Eustachian tube not closed. Throat normal. Velum irritable, and posterior space narrow antero-posteriorly. Duration, four months. Hereditation good. Constitution good. Complications uterine. The audiphone was of no benefit, nor was any form of hearing-trumpet.

It has been a question of some importance among dentists to know what denture would best supply the natural teeth when lost. In using the audiphone Dr. Osmun* has instituted a number of experiments to test the merits of each, and he has reported the results: "A lady who had been deaf for nearly twenty years called at my office to obtain a new denture which would enable her to hear better with the audiphone. The one she was using was on silver, and was ill-fitting. Believing that accuracy of fit was the all-essential point, I naturally advised vulcanite. She, however, had been urged by several of the profession to wear gold, on account of its being a good conductor of sound. Consequently, I made her a set of each base for trial. She reports as follows: 'I can hear very well with the silver plate, better with gold, but with the vulcanite set the tones are much louder and I can hear at a greater distance.'" Not being satisfied with a single trial, he repeated it in a case of a partial denture, with the same results. Result in two patients, both of them preferred the vulcanite denture.

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* The Audiphone, by I. Allen Osmun, D.D.S., M.D. The Independent Practitioner, Baltimore, Md., March, 1880, p. 135.

We have repeated a number of experiments with the rod of wood against the musical box, and when the meatus of both ears are closed the sound is as loud with the vulcanite as with the natural teeth. There is very little conduction of sound with the lower teeth. So far as our experience of the use of the vulcanite denture goes, we have found it to be very much superior in fit and finish to the metallic plates of the early times. As for the injury which this denture has done in increasing deafness, producing irritation, etc., it has not yet come under our observation in any of our patients.

The conclusions here arrived at are that, so far as the deaf-mute is interested, the invention, under its present form, is not likely to prove of so much value to him in acquiring articulation. I have always advised the use of the hearing-trumpet in teaching the deaf-mute, by means of which a large volume of sound can be collected, condensed, and transmitted to the nerve of hearing, so as to produce gymnastics of the hearing apparatus and arouse it into action.

It has been stated by the agents of the inventor that in the city of Philadelphia about sixty deaf individuals have been benefited by the audiphone, and now employ this means of improving their hearing. This number, I judge, has been much reduced of late, and the few, to my personal knowledge, who continue to employ the instrument probably do not exceed five, and some of these are decidedly benefited by its use, and are able to enjoy the comforts of home, even a baby's voice, which they never heard before; in one case a reporter, from his being able to hear with this instrument has been advanced in his profession, showing that it certainly increases the acuteness of the hearing; and in the future it may be the means of exciting an interest in the study of the means to improve the hearing powers of the deaf. The instrument may yet be found so modified as to be very valuable.

In receiving this means we must not ignore or despise the various equally useful hearing-trumpets which have been from the earliest times employed by the deaf, and which of late years have been improved in form and in quality to receive and convey sounds to the ear, increasing the acuteness in a larger proportion than either form of the audiphone or dentaphone.

The results of our experiments are as follows: in the ten cases of deafness only one was decidedly improved in the acuteness of his hearing by the audiphone, two were not benefited by either apparatus, while six were greatly improved by the various forms of the hearing-trumpet, and the one who could hear about as well with the one as with the other preferred using the hearing-trumpet.

Other impartial observers have tested the audiphone, and found that it falls far short of what its inventor claimed for it. Most of these experiments have been expressed in general terms. Dr. Knapp* and the writer have gone a little more into detail, and the former has made quantitative determinations in a table of fourteen cases. His conclusions are as follows: "The audiphone is not a useless instrument; it increases, in a moderate degree, the hearing power of the majority of very deaf persons. In every case, as far as my examinations have gone, was its value exceeded, and in most cases greatly exceeded, by the ear-trumpet" (as seen in Fig. 3, being a small size of the dipper-shaped instrument which was employed in Case VI.).

I desire to state, in conclusion, that in a very large number of patients who have come with the strong desire to try the audiphone, dentaphone, etc., by judicious treatment of the middle ear, the healing of perforation, etc., or by the use of the artificial membrana tympani, they have gone away so much improved as not to require the use of any form of apparatus to aid their hearing. The improved modes of diagnosis and of treatment, founded on a more perfect knowledge of the anatomy and physiology of these important organs, have done very much to prevent the occurrence of those cases of deafness which when treated early are curable, but, if permitted to run on, by very long-continued chronic inflammation and ulceration will destroy the integrity of the organ itself in its most vital parts. Such unfortunate cases must resort to various mechanical appliances to improve their condition, by bringing a larger volume of sound to the nerve to arouse it to activity, so that the deaf not only can hear sounds, but will also be enabled to distinguish articulate speech. Of such available instruments, I consider that, at present, the hearing-trumpet has the widest range of application.

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* Some Observations concerning the Value of the Audiphone. Dr. H. Knapp, Archives of Otology, March, p. 82.

1502 Walnut Street.

THE TREATMENT OF COMPOUND DISLOCATION OF THE ANKLE-JOINT.

BY JOHN H. BRINTON, M.D.,

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Read before the Philadelphia Academy of Surgery, April 5, 1880.

NO matter of graver import could be presented for the decision of the practical surgeon than that submitted to the Academy for its consideration this evening. The injury in question is of the first magnitude, and its treatment, judicious or otherwise, greatly influences the patient's chances for life. At the first glance it might be supposed that no doubt could possibly arise as to its proper management. In reality, however, the whole matter of treatment would seem to be in an uncertain condition. The weight of published authority is apparently in favor of conservative attempts, whilst the daily practice of many of our best surgeons tends to an opposite course.

In order that the Fellows of the Academy may speak to the point, it is suggested that the discussion of the evening be limited strictly to that form of compound dislocation of the ankle-joint most frequently met with in practice, and with which the Fellows are undoubtedly most familiar. I therefore propose to take a supposititious case:

A man, hale, hearty, in middle life, let us say a laborer, jumps from a height, or is thrown from a wagon. He alights forcibly upon his foot, which from the nature of the ground or the direction of the impact is slightly everted. The fibula gives way two or three inches above the ankle-joint (Pott's fracture, in fact), but the injury does not stop here. The weight of the body and the violence of the fall drive the lower end of the tibia through the integuments, lacerating them in a direction usually more or less oblique, sometimes transverse, to the extent of an inch and a half or more. The internal lateral ligament of the ankle-joint is torn off, and the lower end of the tibia projects through the wound for an inch and a half, or two, or two and a half inches. The tendons are displaced, but not necessarily ruptured. The tibia is not fractured, although the edge of the internal malleolus at the point of ligamentous origin is sometimes slightly abraded. The lower end of the tibia is not infrequently covered with mud and dust where it has been driven into the ground. The finger can readily be passed around the end of the bone and into and through the joint. The fracture of the fibula we will regard simply as an incident in the injury; it does not communicate with the joint. There is not much hemorrhage, and the main vessels and nerves are not torn. The integuments are not involved further than the laceration already indicated.

We have thus before us a true compound dislocation of the ankle-joint, the lower end of the tibia being carried inward and the foot everted. It is not an example of a comparatively mild displacement of the joint, with slight laceration of the integuments, due to the pressure of the point of the malleolus, in which reduction and an expectant treatment are probably indicated. Nor is there here such violent bruising, crushing, and destruction of the soft parts and laceration of the vessels as seem to demand imperatively an immediate amputation. The case submitted is one of injury of middle grade, in which the surgeon hesitates as to the true line of treatment. The shock of the injury is often not very great; the vascular and nervous integrity of the limb is apparently but little disturbed. The patient and his friends deprecate the removal of the foot, and the surgeon himself even stands in doubt as to the necessity of amputation. He turns to his books, and finds that the weight of authority would appear to favor conservative efforts. Yet this seeming accumulation of authority is in reality only the enforcement of the opinion of one great surgeon, Sir Astley Cooper, which, strongly expressed, has, we think, been followed somewhat blindly by those who since his time have treated of this accident.

In his work on "Dislocations and Fractures," Sir Astley Cooper, after describing compound dislocations of the ankle, says,—

> "Is amputation generally necessary in compound dislocations of the ankle? My answer is, certainly not. Thirty years ago it was the practice to amputate limbs for this accident, and the operation was then thought absolutely necessary for the preservation of life by some of our best surgeons; but so many limbs have been saved of late years, indeed, I may say, so great a majority of these cases exists, that such advice would now be considered not only injudicious but cruel. It is far from being my intention to state that amputation is never required. I have only to observe that the operation is unnecessary in the greater number of these accidents."

The treatment in these cases which this great surgeon evidently preferred was—*first*, reduction and expectant measures; *second*, removal of the ends of the bones where there was difficulty in reduction, and as a means of guarding against suppuration and ulceration.

Sir Astley is careful to state that he is not an advocate of either mode of treatment to the exclusion of the other, although he undoubtedly favors conservative treatment except in the following conditions, when he advises amputation:

> 1. Advanced age of the patient. 2. Extensive lacerated wound. 3. Extreme shattering of the bones. 4. Dislocation of tibia at outer ankle. 5. Difficulty in maintaining reduction. 6. Rupture of large blood-vessels. 7. Excessive contusion. 8. Extensive suppuration. 9. Exfoliation. 10. Mortification. 11. Excessive deformity of foot. 12. Tetanus. 13. Irritable state of constitution.

Sir William Fergusson reiterates the conservative doctrines laid down by Cooper, although he says,—

> "I fear, however, that in the attempts which have been made to save the foot the results in all the cases have not met with the same publicity; that the instances where amputation has afterwards been necessary, or where death has been the consequence, have not also been recorded; and, from what I have myself seen, I would counsel the inexperienced practitioner from being over-sanguine in anticipating a happy result in every example."

James Miller, of Edinburgh, and Pirrie, of Aberdeen, follow closely in Sir Astley Cooper's footsteps. Mr. Erichsen, in the last edition of his Surgery, advises the antiseptic dressing in ordinary cases of compound dislocation. Where the bones are projecting and comminuted, the choice, he says, must be made between excision and amputation; the latter procedure he would seem to restrict to cases where the posterior tibial artery is torn, or where the soft parts are greatly injured. To use his own words, "I believe that the disinclination on the part of surgeons to amputate in these cases—greatly owing to the strong expression of opinion by Sir Astley Cooper in favor of the attempt to save the limb—has in many cases been carried to such an extent as seriously to add to the patient's danger."

Mr. Holthouse, in his article in Holmes's System of Surgery on compound dislocations of the foot at the ankle-joint, states that, as a general rule, amputation is improper, and, except under certain circumstances, the preservation of the limb should always be attempted. The circumstances favoring and demanding amputation he thus enumerates: an advanced age of the patient; extensive laceration and contusion of the soft parts, especially if complicated with wounds to the blood-vessels, or with great shattering of the bones. Secondary amputation may be demanded when the conservative attempts have failed, through inflammation, sloughing, hemorrhage, or severe constitutional disturbance.

Malgaigne, in his treatise on dislocations, after stating that I. L. Petit saw no safety except in immediate amputation, adds that he himself in most cases prefers excision to amputation, and in a general way he endorses the views of Cooper, except in cases of amputation upon old people. Nélaton agreed with Cooper in preferring conservative treatment to amputation, and so also did Boyer. In 1819 Dupuytren boasted that he had never made an amputation for this injury. Chelius counsels the removal of projecting ends of bone, and limits amputation to old, weakly persons, to extensive tearings, and to crushing of the bones, and, secondarily, to the occurrence of mortification and wasting suppuration. Dr. Hamilton, of

New York, leans towards excision. Dr. Gross advises immediate amputation in severe compound dislocations, where the wound involves the principal vessels and nerves of the limb, with violent contusion of the integuments, and with extensive comminution of the bones. In less severe cases, where the patient's constitution is sound, he says, "Conservative surgery will often effect wonders, and is always worthy of a trial;" and he adds, "Where the ends of the bone protrude, excision will, as a general rule, be the only safe course." Syme and Druitt both recommend sawing off the ends of the bones. T. Holmes, in his Surgery, remarks that amputation is very frequently the safest course, though in young persons the removal of the ends of the bone will often save the foot. Bryant advises reduction and resection, and restricts amputation to those cases where there is much injury to the soft parts and to the bones, and where the age of the patients forbids the hope of recovery under conservative treatment.

In the "Surgery in the Pennsylvania Hospital"—an epitome of the practice of the hospital since 1756, etc., with some statistical tables—we find the following positive utterances, which have a certain bearing on the question before the Academy:

> "The great risk of attempting to save limbs in severe compound injuries of the ankle-joint is strikingly illustrated. We think there is not one of the surgical staff who does not agree in saying that the more he tries the experiment the more he has occasion to regret it."

And again, at page 302:

> "*Excisions of the ankle-joint.* We are very decided in opinion as to what to do here in acute cases when operative interference is necessary: amputate rather than cut out the joint. A bad compound fracture of the bones, with exposure of and breaks into the joint, is not to be temporized with. We have elsewhere stated in this book that regret rather than congratulation will mostly follow attempts to save cases of this kind from immediate amputation."

It will thus be evident, from the opinions cited, that from the day of Sir Astley Cooper to the present time almost the entire weight of published surgical authority has been given in favor of the conservative treatment of compound dislocation of the ankle-joint,—that is to say, that in the lightest form of the injury, unaccompanied by much protrusion of the leg-bones, simple reduction, with antiphlogistic and antiseptic dressings, should be relied upon. In the graver variety, where the bones protrude, with ligamentous rupture, but without laceration of the posterior tibial vessels and nerves, excision of the projecting bone or bones should be resorted to. Amputation is deprecated by nearly all writers, and is advised only in those cases where laceration of the vessels has occurred, or where there is great destruction of the soft parts. Even where amputation will probably be necessary, the majority of writers seem to advise first a conservative attempt, and, that failing, a secondary amputation.

Such are the guiding rules enjoined for the treatment of the injury before the Academy. They have come down to us hallowed by time and sanctioned by great names. Do they in truth represent the honest judgments of surgeons of this generation? and are they acted up to in daily practice? These matters demand sober thought. For my own part, I cannot but believe that it is as Mr. Erichsen has said,—that the disinclination of surgeons to amputate, owing to Sir Astley Cooper's strongly expressed opinion, has in many cases been carried so far as to add to the patient's danger.

Now, it must be borne in mind that since the publication of Sir Astley Cooper's views many changes have occurred which go to modify the relation between the injury and the means at the disposal of the surgeon for its relief. The extensive employment of machinery, the increasing use of carriage-conveyance, and the introduction of the street-car all materially affect the character and number of the accident before us. It is true, remarks founded on this basis are hardly applicable to the consideration of the hypothetical case cited, but the advancements made in surgery undoubtedly are. In Sir Astley Cooper's time an amputation was a very grievous matter. It was accompanied by great pain, shock, fear, mental distress, and with more or less hemorrhage. All of these occurrences—each a catastrophe in itself—have vanished before anæsthesia, Esmarch's bandage, and hypodermic medication. The dangers of an amputation have surely relatively decreased, and the surgeon is therefore now warranted in resorting to it more frequently than did his predecessors, and in cases where they would have been deterred from so doing.

In considering this subject, not a few of the older writers, especially among the French, laid much stress upon the comparative value of the limb after reduction and excision as compared with the stump after amputation. This has really little to do with the matter. The question is one simply and purely of the patient's life, which, so far as my own observation goes, is endangered in this injury to a far greater degree than is usually believed.

Unquestionably some patients do recover under conservative treatment, but many die whose lives, I am compelled to believe, might have been saved by timely amputation. And it is just here that a mistake in treatment may happen. Given a healthy adult in middle life with the injury cited, it seems to me that the patient's best chances lie in amputation; but the amputation must be primary. To make first the conservative attempt, and then on its failure to resort to amputation, when engorgement and infiltration of the limb and profuse suppuration had already occurred, was almost to insure an unfortunate result. Under such circumstances the chances of death from exhaustion, pyæmia, and septicæmia are surely greater than in those instances where primary amputation had been performed.

Of course it is not possible to lay down a rigid law to cover all cases. In each instance the patient's age, habits, and previous condition of health are to be regarded. In early life conservative treatment, as we so well know, offers its best results. In such a case, however, as the one stated this evening, I express my belief, based upon clinical observation, that the true and safest course would be found in primary amputation. This, I think, is a line of practice which is in fact followed by many judicious surgeons, who yet hesitate to announce their adherence to a treatment apparently at variance with so much written surgical opinion.

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DANGER FROM VULCANITE PLATES IN DENTISTRY.—In a recent paper in the *American Journal of the Medical Sciences* Dr. Sexton states that vulcanite plates (worn in the mouth) produce diseases that are frequently the source of reflex aural disease.

NOTES OF HOSPITAL PRACTICE.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

CLINICAL SERVICE OF EDWARD C. SEGUIN, M.D., PROFESSOR OF DISEASES OF THE MIND AND NERVOUS SYSTEM.

Reported for the *Philadelphia Medical Times.*

(Continued from page 574.)

GENERAL PARESIS THE RESULT OF CRANIAL INJURY.

THE patient before you is a man 41 years of age, and a laborer by occupation. About seven months ago, while engaged at his work, a sledge-hammer in the hands of a companion, when raised in the air, and about to be brought down upon a stake which they were driving (or something of this kind), got caught in a pulley overhead, and, thus being deflected from its course, struck him upon the left temple. He was knocked senseless, but it was found that there was no bruising or tearing of the skin. When he recovered consciousness (which he did in quite a short time), he did not suffer from vomiting or headache, and, indeed, had no symptoms whatever until about six weeks ago. At this time he was taken ill, and was obliged to go to bed; but it is impossible, from the man's account of the attack, to form any very definite idea of its nature. He first noticed a weakness and numbness of the hands and feet, and later was troubled with headache, dizziness, and blurring of vision. There was no diplopia, but occasionally he had hallucinations of sight, the imaginary objects that appeared being such as were connected with his daily work. Whether there was really delirium or not it is impossible to say, but there does not seem to be much doubt, from what he says, that there was more or less fever during the illness. This, of course, is a very unsatisfactory history; but we are obliged to content ourselves with it.

One week ago the patient was able to get about again, and since then, in addition to most of the above symptoms, which still remain, he has had considerable nausea and vomiting. The headache is principally located on the left side (that on which the blow was struck, you will remember), but is not confined to that, as it is also felt to some extent in the occipital region. The dizziness is quite marked, and if he rises suddenly from a chair, for instance, it becomes very great. If we practise percussion or palpation on the left side of the head, we find considerable hyperæsthesia in the temporal and parietal regions, which is not the case on the right side. The dynamometer registers only nineteen and twenty-three for the right hand and eighteen and twenty-two for the left. This is exceedingly weak for the grasp of a working-man (not more than about one-half what it should be normally), and, indeed, shows some loss of power since he was first examined by me a few days ago. When he walks, you perceive that he has a very staggering gait, and that he inclines distinctly to the right. Still, it is not at all like the gait of hemiplegia, but resembles very much that of an individual who is convalescent from some acute disease. From the weakness and numbness of the extremities, therefore, we conclude that he has general paresis. The pupils are normal, but the ophthalmoscopic examination shows that there is well-marked atrophy of the right optic nerve, as well as commencing atrophy of the left. There is, however, no neuro-retinitis, the outline of the disk being more distinct than usual. The heart is found to be normal.

On testing the sensibility of the fingers and forehead, it is seen to be quite unimpaired. About the face and forehead there has never been any numbness complained of, but this has been a marked feature in regard to the hands. I have often had occasion to remark on the difference between numbness and anæsthesia, which are so frequently confounded not only by laymen, but also by a large number of physicians. There is really no connection between them, and many years ago Brown-Séquard demonstrated that numbness represents an irritation of a sensory tract, while anæsthesia, on the other hand, expresses destruction of gray matter. Here there is no anæsthesia, the æsthesiometer showing that the sensibility is good both in the forehead and in the fingers. The tongue is protruded in a perfectly straight manner. and there is no evidence whatever of any facial palsy. Over the supra-orbital nerve, as well as the scalp, there is considerable tenderness on pressure. Tendon reflex is found to be more marked than normal. Finally, there is no trouble with the bladder.

This case illustrates very well the remote effects of cranial injuries. The precise diagnosis is, indeed, a matter of some difficulty, but there seems to be little doubt that the lesion here, whatever may be its nature, is bilateral and basal as to location. We infer that it is bilateral because the results produced by it are not confined to one side of the body, and that it is basal because the phenomena in the case are chiefly motor in character, while the intellectual faculties are, apparently, not at all impaired. The staggering gait and other characteristics are plainly in support of this location as the seat of injury, indicating that it is just above the floor of the anterior fossa of the cranium. Whether this patient has at present anything more than a meningitis I am not prepared to state, but still I am of the opinion that his trouble is, at all events, principally meningeal, and that it involves the optic nerves, the crura cerebri, the pons Varolii, and other motor portions. I am not sure, however, that there is no parenchymatous lesion in addition, from the fact that no symptoms are produced as the result of injury to the first and second frontal convolutions of the hemispheres and the white matter beneath them, with the exception of headache in a certain proportion of cases. For instance, large abscesses, as I have previously had occasion to remark, may remain for a long time in this portion of the brain without any suspicion of their presence being entertained.

In the way of treatment, counter-irritation and iodide of potassium are the agents upon which we commonly rely in traumatic meningitis, as well as cerebritis, although the latter is less amenable to any therapeutic measures. At the best, however, I fear that the prognosis in this case is anything but favorable. After a longer or shorter period I should expect epileptiform seizures to ensue; and it is, indeed, a matter of some surprise to me that the patient has not suffered from them before this. What I should recommend here, as the only course of treatment that offers any chance at all of success, would be for the man to keep perfectly quiet at home, remaining the greater part of the time in bed, and that both counter-irritation and the iodide of potassium should be persistently and continuously employed.

I believe that, as a general rule, practitioners of medicine do not have a correct appreciation of the results that are liable to follow a comparatively slight injury to the cranium, and many cases are thought to have recovered entirely which, if they were to remain under observation for a few months longer, would be found to terminate in very serious cerebral lesions. It is a fact, also, that a large number of children's heads receive injuries from falls, and in other ways, which entirely escape notice, as it is, of course, to the interest of the attendants to conceal their occurrence; and even when parents are aware of them they do not often attach any significance to them. Some time since, I saw the case of a child, in consultation with Dr. Weir, of this city, in which we made a diagnosis of meningeal hemorrhage, although no history whatever could be obtained of a traumatic origin of any such trouble. There were convulsions, followed by unconsciousness and a tetanoid condition, which lasted for several days, when the little patient died. Unfortunately, no autopsy could be obtained, but there could be little doubt of the diagnosis, since, after the death of the child, the nurse, whose conscience seems to have been quickened by the fatal termination of the case, confessed that shortly before the commencement of the illness it had fallen backward and struck its head. The injury thus received was in all probability the determining cause of the meningeal trouble.

Six years ago a boy was brought to this clinic who staggered in his gait, and was found to be the subject of partial paralysis, which affected one side of the body more than the other. He also suffered from violent headache, strabismus, and other symptoms denoting brain-trouble. The diagnosis made was that there was some lesion of the cerebellum, and that this was probably of the character of an abscess. When death at length occurred, it was found, however, that this was not the case, the autopsy revealing the fact that there was cerebritis, with thickening and swelling, which involved the pons Varolii.

Perhaps the most common result of cranial injury is convulsions; and such a traumatic origin is often found in the history of epilepsy. In many such cases we can see the cicatrix where the injury was received; and experience shows that patients suffering from this form of epilepsy are usually incurable. In adults insanity also not infrequently results from the same cause: so that it has been found that out of all cases of insanity from five to eight per cent. are due to concussion, fractures, and other injuries about the head. Some authorities estimate that the percentage is even higher than this. I am fully convinced, therefore, that individuals receiving cranial injuries should receive the most careful attention on the part of their medical attendants, and especially if there is any evidence of concussion present. If a child, for instance, after falling and striking the head turns pale and vomits, it should be kept perfectly quiet, and closely watched for a year following. Every slight symptom that appears should be looked after assiduously, and if the least evidence of paresis manifests itself it should receive the promptest treatment by means of counter-irritation, the iodide of potassium, and other appropriate measures.

Another point. If the injury is about the parietal region we are apt to have local paralysis on the opposite side of the body, because the motor zone in the brain would probably be involved in the lesion resulting. In such cases the best results are often obtained from trephining.

Finally, it is found that brain-tumors quite frequently result from cranial injuries. This at least has been my own experience, although all observers do not concur in this opinion. Did time permit, I might mention a considerable number of instances of such tumors that could be traced to a traumatic origin. Many of you will no doubt recall the case of the boy in the institution on Blackwell's Island which I related to you last week, in which at the autopsy an enormous sarcoma was found that occupied fully one-half of one of the hemispheres. The starting-point of the difficulty had been a fall upon the head, which caused a fracture behind the coronal suture.

I will also allude to one other case, by way of example. Some time since I was called to see a case at Honesdale, Pennsylvania, in which the patient suffered from epileptic attacks and other cerebral symptoms which I need not describe here. On inquiry, I found that he had fallen from a wagon and struck his head, and, although there was no evidence of external injury about the cranium, concussion had undoubtedly been caused by the accident. The diagnosis that I made was meningitis; but after death a tumor as large as an orange was found. This, however, had given rise to marked meningeal lesions, and so I was right, in part at least, after all.

That tumors are not infrequently the result of traumatic causes is not true merely of those of the brain, since it is well known that various kinds of neoplasms are apt to originate in injuries of greater or less severity. Thus, epithelioma of the lip sometimes comes from the slight pressure of a pipe upon the part in smoking, and tumors of the breast, whether cancerous or sarcomatous, very frequently are due to a contusion. In claiming the same traumatic origin for cerebral tumors, I am not, therefore, stating anything that is not in strict accordance with the ordinary laws of general pathology.

TRANSLATIONS.

Sulphate of Atropia in Incontinence of Urine and Œsophagismus.—Dr. E. Girard (*Bull. Gén. de Thérap.*, June 15, 1880) gives testimony in favor of this means of treatment. In the case of a young soldier who was attacked by nocturnal incontinence of urine after detention in prison, and who had suffered from this affection for a month and a half, Dr. Girard ordered a hypodermic injection of half a milligramme of the neutral sulphate of atropia on retiring. The patient, however, urinated in bed as usual. The same dose next evening was without effect. The third night a whole milligramme was injected, and this was repeated for six nights without success; but on the seventh night the patient did not wet his bed. The subcutaneous injections were continued for the three following nights, diminishing progressively the quantity of atropia. The patient then left the hospital perfectly cured.

A second case was that of a girl of 12, who had been subject to nocturnal incontinence of urine since infancy. The injection of one-half a milligramme of sulphate of atropia was without effect, but on the following evening one milligramme was injected, and the patient passed the first night without wetting the bed in her recollection. For nine successive evenings the same injection was continued, and at the end of that time the little patient was discharged from the hospital perfectly cured.

Dr. Girard also gives the case of a man of 22 years, of nervous temperament, who was suddenly seized with spasm of the œsophagus, accompanied by a choking feeling as if he had swallowed too large a bolus of food. The affection was at first supposed to be an organic stricture of the œsophagus, and the patient was ordered morphia injections and belladonna pills. The latter produced some slight amelioration, but the patient was discharged uncured, and after suffering for a long time came under Dr. Girard's care, who in his paper gives a full account of the symptoms. At first he was ordered pills of morphia; but these failed to give relief. An injection of one milligramme of sulphate of atropia was then administered, the effect of which was surprising. Regurgitation ceased at once, and, except an unusual dryness of the throat, the patient felt perfectly well. The injections were continued daily; after some days the patient began to experience erections followed by ejaculation, but any diminution in the dose was followed by return of the spasm; increased to two milligrammes, with the hope of more quickly cutting off the disease, difficulty of urination set in. For this reason the medium dose was continued for three months, the patient gradually improving, and finally recovering entirely.

A curious fact was observed during the treatment, viz., dilatation of the pupil on that side alone upon which the injection had been made, the pupil on the opposite side responding but slightly.

Physiology of the Sphincters.—At a recent meeting of the Société de Biologie (*Le Progrès Méd.*, 1880, p. 472) Dr. Brown-Séquard remarked that Goltz has seen rhythmic movements executed by the anal and vesical sphincters after section of the spinal cord in the dorsal region. Dr. Brown-Séquard has also himself observed exactly similar movements executed by the sphincter vaginæ. He has observed, in addition, that these various rhythmic movements are arrested if one of the great toes is compressed or tickled. This fact agrees with what was long ago demonstrated by Dr. Brown-Séquard, namely, that irritation of the great toe causes the arrest of epileptiform convulsions occurring in certain diseases of the cord.

Syphilitic Diseases of the Liver in the Adult.—From a thesis of Dr. Ed. Delavarenne, recently reviewed in *Le Progrès Médical*, we learn that acquired syphilis may attack the liver at any stage of the diathesis. The doctrine that the early manifestations of syphilis are superficial, and that the later lesions alone are visceral, is very prevalent in the profession; and in the presence of secondary lesions the idea of percussion of the liver, for example, or the spleen never seems to occur. Nevertheless it may be to disease of these organs that the cachectic appearance of some patients with secondary syphilis is due. Dr. Delavarenne's thesis is divided into three parts, in which the author studies the hepatic lesions in the secondary, intermediate, and tertiary stages. He has collected twenty-seven cases of icterus coincident with secondary syphilitic manifestations. But, to put the matter beyond dispute, he considers only those in which the liver is enlarged. The gastric troubles which are found in connection with the hepatic enlargement and icterus are *consequent* upon these symptoms, and therefore cannot be regarded as their cause.

With regard to the pathology of the affection, Dr. Delavarenne says that in early syphilis traces of repeated congestion of the liver are found with the formation in the connective tissue of embryonal elements in a more or less advanced stage of organization. These alterations are produced under the direct influence of the syphilitic virus brought in the blood. Age and sex do not seem to influence the disease. The superficial situation of the organ, exposing it to pressure and violence, may determine the disease in some cases.

Three chief symptoms characterize the disease: hypertrophy, icterus, pain. The hypertrophy manifests itself in from six weeks to two months after the beginning of the syphilitic infection. It may show itself alone or in connection with the other two symptoms. It generally lasts about two months and a half, and is perfectly curable. Icterus only showed itself in one of thirteen cases coming under Dr. Delavarenne's notice. The cause of this icterus is probably an inflammatory growth blocking up and obstructing the course of the bile. This icterus increases for some days, then is stationary for several weeks (sometimes for three months), and then slowly disappears. It presents symptoms similar to those of simple icterus. Pain is very variable, presenting every degree from simple discomfort to severe suffering. It does not last so long as the other symptoms, and is no worse at night than in daytime.

In addition to these symptoms, all the ordinary secondary manifestations may show themselves. The prognosis of the hepatic trouble is not grave, but it augurs ill for the course of the syphilitic disease in general when the liver is attacked at an early period.

Hepatic troubles occurring in the stage of syphilis intermediate between secondary and tertiary present no differences from those shown in the secondary stage.

Tertiary syphilitic hepatitis is found in two forms, interstitial and gummous. They are almost always found together, and appear to be derived from the same anatomical process. Perihepatitis is always present. As to the size of the organ, this may be generally hypertrophied, normal in size, or there may be generalized or partial atrophy. Each one of these conditions corresponds with one stage of the disease. Dr. Delavarenne gives with considerable detail the pathological appearance presented in each of these cases. The symptoms have not been thoroughly studied; so far as known, the first stage is marked by enlargement, following a long time after the early stages of the syphilis, pain, icterus more or less constant and following the other symptoms. Sometimes there is slight ascites. The second stage presents no peculiar symptoms. The third stage shows atrophy of variable form, rarely icterus, ascites remarkable for the rapidity of its invasion, and integrity of the digestive functions. The course of tertiary syphilitic hepatitis is very variable as to its duration; perhaps on an average it may last five months. Absence of gastric troubles, constant enlargement of the spleen, and comparative rapidity of course serve to distinguish syphilitic from simple or alcoholic hepatitis.

SATURNINE APHASIA.—At a recent meeting of the Société Clinique de Paris (*La France Méd.*, 1880, p. 402) M. Ernest Gaucher related the case of a painter, 39 years of age, who had never suffered from any symptoms of lead-poisoning until he went to work in a white-lead factory. Eight days after he had begun work in the factory he was seized with a short but violent attack of colic. Of this he was cured in the hospital, but returned to his work a few weeks later. He had been at work only two days when he suddenly fell unconscious in the workshop. This attack, which was unaccompanied by convulsions, lasted fifteen minutes. He was then taken to the hospital again, when he gave an account of his attacks, and it was at the same time ascertained that he had always enjoyed good health, and had never suffered from syphilis, alcoholism, or hereditary diathesis.

The only symptom presented by the patient, besides the blue line on the gums and the constipation habitual in lead-poisoning, was violent and persistent headache. There was no colic, no vomiting, no nervous symptoms, neither paralysis, anæsthesia, nor trembling. His sight was good; appetite preserved; urine scanty and loaded with salts, but without albumen. Three days later the patient began to suffer with delirium and vertigo, added to the pre-existing cephalalgia; these passed off, however, within twenty-four hours, leaving the headache as bad as ever, but this became slowly better during the succeeding week.

Suddenly, however, at the end of that time the patient was seized with vomiting during the night, and the next morning he was found aphasic.

The aphasia included also incapacity for writing, and the patient, who, instead of "*cette nuit 3 heures*," had written "*ett ar de*," in a trembling hand, thought he had written correctly. Otherwise his intellectual faculties were preserved.

Shortly after the physician's visit the patient fell asleep, and when he awoke in the afternoon the aphasia had disappeared, and left only headache, from which he slowly recovered.

According to Gaucher, this case is unique, none similar having been recorded. Two hypotheses suggest themselves in this case as to the pathogenesis of the aphasia: 1. Functional disturbance, *i.e.*, cerebral anæmia. 2. The presence of lead in the cerebral tissues, with temporary alteration or modification of the anatomical elements under the direct influence of the poison. The aphasia was temporary because the lead was only temporarily in the economy and was being removed.

QUEBRACHO IN DYSPNŒA.—Further researches on the effect of quebracho seem to shake somewhat the enthusiastic reports of earlier investigators. Laquer, in the Breslau Hospital, tried it in twenty-one cases of patients suffering with different varieties of dyspnœa. Instead of the single experiments which had been previously made, the patients were kept on quebracho for several weeks at a time without the simultaneous employment of any other medicine. Improvement was observed in only a comparatively small number of cases. In a larger number (eleven) quebracho did not seem to answer any better than other medicines. In seven cases it was entirely without effect. Occasionally after continued use of the medicine some disagreeable effects were produced, as heat, dizziness, copious salivation, and nausea. Experience showed that the effect was more satisfactory when the respiration was frequent than when it was not. The influence of the medicine was less marked upon the old than upon the young. The quebracho was given so that one to two teaspoonfuls of a solution containing twelve parts of the bark in two hundred parts of water, with forty parts of mucilage, should be taken thrice daily.—*Berliner Klin. Wochens.;* from *Breslauer Aerztl. Gesellsch.*, 1879, No. 24.

PATHOGENESIS OF BASEDOW'S DISEASE.—W. Filehne (*Cbl. f. Med.*, No. 10, 1880; from *Erlanger Physical-Med. Sitzungsber.*) succeeded, by cutting through the anterior fourth of the restiform bodies in rabbits (without injuring the inferior surface of the medulla), in raising the tonus of the vagus so that neither reflex irritation of the vagi would cause slowing nor division of both cause increase of frequency in the pulse. In addition, exophthalmos frequently supervened, even when the cervical sympathetic had been divided: the cause of this was shown to be enlargement of the vessels. In rare cases, swelling of the thyroid gland supervened on the division of the restiform bodies. In a single case galvano-caustic division of the restiform bodies produced all three symptoms of Basedow's disease.

PILOCARPIN IN LEAD COLIC.—Weinberg (*Deutsches Archiv f. Klin. Med.*, Bd. xxiv., Heft 4 and 5) has seen pilocarpin succeed where the ordinary medicines, opium, cathartics, etc., have failed. Doses of 0.02 centigramme subcutaneously injected caused salivation and profuse sweating, with simultaneous decrease in the pain, and a little later copious passages from the bowels. In one case where subcutaneous injection of 0.015 milligramme of pilocarpin did not give relief, an enema containing 0.085 milligramme produced the desired effect.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, AUGUST 28, 1880.

EDITORIAL.

CLINICAL THERMOMETERS.

IT is credibly stated that about eight thousand clinical thermometers are annually sold in this country, more than half of them being of home manufacture. These thermometers vary exceedingly in accuracy, most of them being constructed, or, rather, tested, on a happy-go-lucky principle, which is not conducive to scientific accuracy. The trustees of Yale College, desirous of turning into practical work some of the facilities possessed by their astronomical laboratory, have established a bureau for thermometrical verification. It is not necessary to go into a detailed description of the standards and methods employed. It is sufficient to state that both of these are to be relied on, and that a Yale certificate makes a clinical thermometer a practically perfect instrument.

The enterprise is not a commercial venture, but an attempt at securing accuracy for American scientific instruments, and deserves all encouragement. It is expected, however, that those having thermometers to be corrected shall be willing to pay for a part of the cost to the institution. If four thousand thermometers are corrected yearly, it will be an average expense of fifty-one cents each to the observatory; and the adopted scale of charges is as follows:

"Standard meteorological thermometers .	$1.00
Ordinary meteorological thermometers .	50
Ordinary maximum thermometers . .	75
Ordinary minimum thermometers . .	75
Clinical thermometers	50

"There will be a deduction of one-fifth of the above charges where more than eight thermometers of one kind are received at the same time. In the case of clinical thermometers the charge will be four dollars per dozen when not less than two dozen are sent at the same time."

It is hardly probable that many physicians will send their old instruments for verification,—it would cause too much dissatisfaction with past work; but there will be no excuse for buying in the future anything but perfectly correct instruments. The enhanced cost to the physician ought not to be over half a dollar at the outside, and the doctor owes it to himself and to his patients to see that his thermometer, if of American make, has a Yale certificate, or, if of English manufacture, a similar document from Kew. Were the profession so to insist, in a very short time the instrument-makers would cease from purchasing inferior stock.

PROCEEDINGS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

A CONVERSATIONAL meeting of the Society was held at the hall of the College of Physicians, Philadelphia, June 23, 1880, Dr. H. Lenox Hodge, Vice-President, in the chair.

Dr. Laurence Turnbull read a paper entitled "A Comparison between the Audiphone, Dentaphone, etc., and the Various Forms of Ear-Trumpets for the Deaf." (See p. 590.)

Dr. Cheston Morris had seen several cases in which galvanism appeared to be of great benefit in deafness of nervous origin, and reported a case where the improvement was marvellous; deafness had existed for several years.

Dr. Turnbull said that Duchenne recommended electricity in nervous deafness, such as that resulting from quinine. In cases where there has not been much change in the middle ear, he had used it with success.

Dr. H. Augustus Wilson agreed with the lecturer that continued experience would decide between the merits of the different instruments, and in the mean time we are bound to give our patients the benefit of a trial of what promises to relieve them.

Dr. Mills had used electricity in many cases, but had little personal experience with this class of cases. He believed that quinine caused a change in the molecular constitution of the nerves and nerve-centres. In cases of deafness resulting from cinchonism, electricity would doubtless do good. It is also of service in improving the tone of the muscles concerned in the mechanism of hearing.

Dr. W. R. D. Blackwood explained that the reason why electricity had proved unsatisfactory in the hands of some practitioners was because they had only used the faradic current. He insisted upon short séances, the use of galvanism, and of very weak currents, carefully regulated by rheostatic coils or by filling the auditory electrode with water. He believed that the direction of the current had better be from the brain outward.

Dr. Aloysius Schapringer presented an ingenious audiphone, made for the use of a patient afflicted with rheumatoid arthritis and unable to hold the ordinary handle, which in this modification was represented by two curved supports, which, in use, rested upon the forearm of the patient, held in front of the chest, the elbow being bent at a right angle.

Dr. S. D. Risley had perceived in only one instance any benefit from the audiphone, although he had tried it with several hundred. In this patient, who had been operated upon for cataract, much assistance had been obtained from the audiphone, since she was so deaf that it was very difficult to obtain answers in order to make the necessary examination for glasses.

Dr. Hodge said that he had been informed that about three hundred audiphones had been sold in this city, while about four thousand deaf persons had tried them. Of these about one thousand stated that they had been benefited to a greater or less degree, so that the proportion might be stated as one in four who considered themselves aided by the audiphone, while a much smaller proportion considered the benefit sufficiently great to be worth paying for.

Dr. Turnbull said that he had been informed by the agent that only about sixty audiphones were satisfactory out of the many hundreds who came to try them. At the Deaf and Dumb Asylum it was less successful than was at first reported, and was of no use in teaching articulation. In his office he had made a comparison between the relative merits of the audiphone and the ear-trumpet, and had found a greater range of application for the latter. The proportion of cases benefited by electricity is larger than those improved by the mechanical appliances. He preferred the faradic current as being more stimulating.

REMOTE EFFECTS OF INJURIES TO THE CRANIUM.

Dr. Cheston Morris presented a specimen showing union after fracture of the base of the skull; the man lived for twenty years after the injury, which entirely changed his disposition, and ultimately made him insane. He also referred to other cases where injuries to the skull had been followed by lunacy.

Dr. Charles K. Mills referred to the celebrated case in which a tamping-iron was driven through the skull, and also to a clinical lecture on this subject by Dr. William Hunt, recently published in the *Medical News and Library*. Lesions of the anterior lobes of the cerebrum do not produce motor and sensory symptoms, no paralysis or other obvious effect is noticed, but psychical changes may generally be found, if sought for. There can be no large injury of the brain without symptoms. No consideration of this subject would be complete without a reference to the labors of Duret on Cerebral Traumatism, which have thrown much light upon the results of brain injuries. Owing to the structure of the cranium, it is to some extent elastic, while its contents are practically incompressible. The effects of impact and counter-stroke are to cause disorder in different parts of the brain. As a result of traumatism there may occur actual rupture from within outward of the pons-medullary region or of the spinal cord itself. Certain it is that local extravasations of blood may be produced by the impact, and that cerebral concussion would readily account for many symptoms. A very small clot may give rise to irritation, which will produce general convulsions. As regards the comparative effects of injury to the dura and pia mater, he believed that spasmodic symptoms are caused by the dura mater particularly. He repeated that we can only study cerebral injuries satisfactorily in the light of the researches of Duret.

Dr. John Ashhurst, Jr., had seen cases where epilepsy had followed fracture of the skull, and believed that Dr. Mills's views were thoroughly correct. Whenever he had had the opportunity of examining a brain after fracture of the skull he had found decided changes in the membranes and vessels. In regard to the view of counter-stroke, as produced by oscillations of the skull, he regarded it as the best explanation ever advanced of the cause of so-called injuries from counter-stroke, and agreed with the views already set forth by the speaker in a paper recently read before the Academy of Surgery.

Dr. R. J. Levis said that the fact that surgeons now recognize the importance of these after-effects is shown by the more frequent use of the trephine in injuries to the skull at the present day. He mentioned a case where a piece of the skull the size of the end of a hammer was driven in upon the brain, and the man was allowed to continue at his business. In about a year he became epileptic, and probably is so yet. Surgeons now are much more inclined to cut down upon an injured calvaria, and trephine in order to prevent remote effects, than formerly. In saying this he spoke the sentiments and practice of his colleagues at the Pennsylvania Hospital.

Dr. Morris was pleased with the remarks of the last speaker. He referred, in conclusion, to a case of a man who was thrown out of a carriage, who could hardly be persuaded to remain in his bed. In a few days he refused to stay at home any longer, and went to Washington, where he remained three weeks, and from there to New York, where he had an attack resembling a sunstroke, after which he went to Boston, where he was ill with brain fever for a long time. After a sickness of more than six months, he recovered, and remained well for about three years, when he had another attack of similar character, and has continued to be subject to these attacks ever since. This train of symptoms is attributable to the early injury. The speaker expressed the opinion that many cerebral troubles of obscure character may be traced back to some old injury of the skull. He further referred to a man who was struck heavily upon the ear while boxing, who died several weeks afterwards with cerebral abscess. No doubt, in these old cases of brain injury, inflammation of a subacute character may be set up, which may eventuate in epilepsy and convulsions. The impaired blood-supply and modified nutrition have much to do with the symptoms, for tremor, epilepsy, and convulsions are largely due to disturbed blood-supply to the brain. Anything that will cause this disturbance will cause convulsions.

Dr. H. Lenox Hodge said that in injuries of the head we may have very violent symptoms follow of an epileptic character without any injury to the brain; they are simply reflex phenomena from lesions of the scalp. He had seen a case of epilepsy without depression of the skull to produce these paroxysms, which were entirely relieved by removing the tender cicatrix. This was a case of reflex epilepsy of the class first indicated by Brown-Séquard.

CUPRIC TEST-PELLETS FOR DIABETIC URINE.

Dr. John B. Roberts presented some cupric test-pellets made by Mr. McKelway for Dr. Jos. S. Neff, for the qualitative and quantitative determination of sugar in the urine.

Dr. F. Woodbury remarked that Dr. Pavy, of London, deserved the credit of introducing these test-pellets, as already mentioned in Dr. Neff's original article. These pellets approxmate quite closely to the standard when first made, but subsequently change slightly on keeping, and from more or less attrition they lose weight. It is a question whether the old Trommer's test is not just as convenient for a qualitative examination.

Dr. Schapringer and Dr. Blackwood both favored the use of this easy test.

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Recovering Soap from Soap-Suds.—At Ivry-sur-Seine a manufactory of toilet soaps has prospered for a considerable time. The soap, which is perfumed with oil of roses, is obtained from the treatment of washing-water in Paris, which, instead of being run into the sewers, is now collected in casks.—*Druggists' and Chemists' Circular.*

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, June 24, 1880.

The President, Dr. S. W. Gross, in the chair.

(Continued from page 584.)

Secondary sarcoma of the lungs. Presented by Dr. H. F. Formad for Dr. R. E. Girvin.

JOHN C., Jr., Philadelphian, age 36 years, laborer in Water Department. He served with the three-months men; after his discharge he re-enlisted for three years' service in the army. He suffered while there with what was pronounced rheumatism, especially affecting his left leg and ankle. Some eight months after his discharge the ankle troubled him greatly. He applied to a *veterinary surgeon*, who gave him a liniment, which by constant application relieved him for some five years.

In January, 1870, one inch below the internal malleolus of the left foot, a small pimple formed, which caused great pain, of a stinging and throbbing nature. He consulted a physician, who pronounced it a boil. Some weeks afterwards, not being satisfied, physician No. 2 was consulted; it was pronounced a tumor by him, but at the same time he requested the patient to go to Professor Gross, who diagnosed it a *nerve-tumor.* Three months later, physician No. 2 saw the man; he operated, and removed a small tumor about the size of a *hazel-nut*, which, upon examination, was found to have encased "a small, detached piece of bone." He was only temporarily relieved. Some six weeks subsequent to this the pain was just as severe as prior to the operation.

Eight months after this a second operation was performed, and a tumor the size of a minié-ball removed.

Even after this operation the tumor continued growing, and after two years it had reached the size of a *plum*, when operation No. 3 was performed for its removal.

During the years 1874 and 1875 the patient tried almost everything in the guise of a remedy. He at length gravitated into the hands of Indian doctors, quacks, etc.

On Easter Monday of 1875 Dr. Leaman examined the foot. Near the 1st of the following December he operated, and the tumor was pronounced "malignant sarcoma." The mass removed was the size of a *goose-egg.* The doctor scraped the bone thoroughly. The wound healed promptly, and he returned to work.

Three years from this date the tumor had again returned. It now was the size of a goose-egg, with another mass somewhat larger surrounding the ankle. Some time during 1878 he fell in with an electrician, who applied his battery to good effect, for after some time the mass softened and ruptured; from time to time he removed portions of the tumor, followed by profuse hemorrhage. This was in December, 1878. Hemorrhages continued, and he became greatly emaciated.

In the early part of 1879 he was taken to the University Hospital. Professor Agnew there amputated the foot and lower third of the leg. Recovery was prompt, and he regained in flesh, after a six-weeks stay in the hospital, about fifty pounds.

Three months after leaving the hospital he complained of a sense of uneasiness in the breast. In August, 1879, while eating dinner, his mouth filled with blood. Each morning for some subsequent days he raised a little blood; through the night he raised small tough masses the size of a pea, slightly tinged with blood. This continued until he had a profuse hemorrhage. Now he consulted an experienced practitioner, who attended him during these attacks of hæmoptysis, which occurred at first twice daily, and afterwards every third day.

Preceding these attacks he would have a violent fit of coughing, which lasted until he coughed up a mass having a *tubular appearance*, resembling a solid quill, varying in size from one inch to three inches in length. He could tell almost to the hour when a hemorrhage was coming, and could detect these masses moving in the "bronchial tubes" until they were broken off and coughed out, followed by hemorrhage. From time to time hemorrhagic spots of a *dark-purple* color made their appearance upon the skin; these were quite painful to the touch; they disappeared in twenty-four hours.

At this time a consultation was held by the physician in charge. After consultation and microscopic examination of one of the masses, it was pronounced "diphtheritic bronchitis," and treated accordingly. These periodic attacks of hæmoptysis greatly reduced the patient in weight and strength.

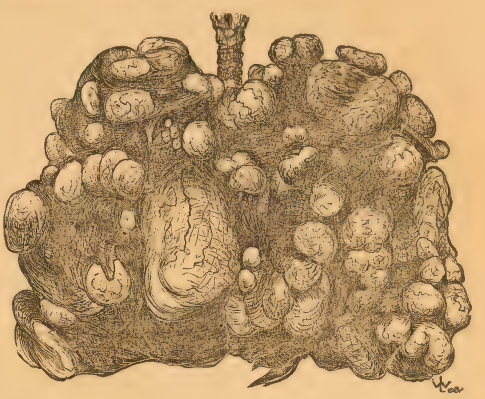
In November, 1879, I first became acquainted with the case. There was dulness, unaltered by position; weakened or absent breath-sounds over the greater portion of the lungs. The right lung was apparently useless, the left side of the chest only seeming to expand and do the work of carrying on respiration. Great dyspnœa and constant cough, with very little expectoration; night-sweats; the skin normal in appearance; no *cancerous tint.* Small masses were frequently found in the expectorated sputa. Twice such little masses had been sent to Dr. Formad without history, and were pronounced in his report "fragments of an organized new growth, evidently round-celled sarcoma."

This formed the basis for my diagnosis.

Patient died April 26, 1880.

Autopsy was held in the presence of Dr. Formad. The lung was found, upon exposure to view, to fill the thorax thoroughly. The surface of the lungs, as well as the parenchyma, was studded with numerous nodular masses of new growths, varying in size from one to six inches in diameter.

The macroscopical appearance of the lungs is very accurately shown in the accompanying drawing made by Dr. W. F. Lee:



The intercostal pleura was perfectly free from any deposit whatever; no pleuritic adhesions. The kidneys and liver were normal, only greatly congested. There were no enlargements of the mesenteric glands.

Microscopic examination of the new growth of the lung made by Dr. H. F. Formad showed it to be a small-celled, round-celled sarcoma of very typical structure.

Spindle-cell sarcoma of the lower jaw. Presented by Dr. J. Ewing Mears.

The specimen involved the greater portion of the body of the lower jaw, which was removed by operation from a boy 11 years of age. Ten months before the operation of removal was performed the boy was struck upon the jaw over the region of the left canine tooth, which was carious; soon after swelling appeared at this point, and continued until the growth reached the size to be observed in the specimen. Including the bone, which it embraces, the tumor is the size of a large lemon, projecting more from the external surface than from the internal, and extending laterally from the second bicuspid tooth of the left side to the first bicuspid tooth of the right side. On the left side the teeth were quite loose, being pushed from the alveoli and held by the soft structure of the tumor. On the right they are firmer, and not dislodged to the same extent as those on the left. Examination shows the tumor to have taken origin in the periosteum, and to have involved this membrane in its growth to the extent described. Microscopic examination reveals its structure to be that of a sarcoma of the spindle-cell variety. The growth was removed with the portion of the jaw involved, by making an incision along the inferior border of the bone from just in front of the anterior inferior angle of the masseter muscle on one side to the corresponding point on the other, beginning and ending at these points, so as to avoid wounding the facial arteries. A short transverse incision from the symphysis of the jaw to within *one inch* of the *border* of the *lower lip* was also made, and the flaps dissected upward, in this way fully exposing the tumor. The muscular attachments, with the mucous membrane, were divided, and the bone sawn through on either side. The patient made a good recovery.

Necrosis of superior maxillary bone following typhoid fever. Presented by Dr. J. EWING MEARS.

The specimen of necrosis of superior maxillary bone was removed by operation from a boy 6 years of age, who had suffered from an attack of typhoid fever. The history given by the mother of the patient was as follows: "Fifteen weeks since, the boy was attacked with typhoid fever, and was quite ill for three weeks. During the fourth week of the disease the right side of the face gradually swelled, and, under the belief that an abscess was forming, a poultice was applied. Suppuration ensued, and a copious discharge of very offensive pus escaped. The teeth, as far forward as the canine, became loose, and were removed." The soft tissues gradually receded from the necrosed portion of bone, exposing the alveolar border. Although the dead bone felt quite firm in place, it was thought best to remove it, believing that it was detached and was held by the soft structures. These were accordingly separated by the knife, and the piece was grasped by the bone-forceps and dislodged. It measured one inch and a quarter from before backwards, and one inch from below upwards, and consisted of the greater portion of the body and alveolar process of the bone, with parts of the malar, nasal, and palatine processes.

The occurrence of necrosis of the jaws after attacks of exanthematous diseases, as smallpox, scarlet fever, and measles, is well established by the numerous instances which have been recorded, but is regarded by Mr. Salter (Holmes's Surgery) as rare after the continued fevers. Dr. Keen (Toner Lectures, 1877) also alludes to its rare occurrence *after* typhoid fever.

PHILADELPHIA ACADEMY OF SURGERY.

MEETING OF APRIL 5, 1880.

VICE-PRESIDENT D. HAYES AGNEW, M.D., in the chair.

DISCUSSION ON THE TREATMENT OF COMPOUND DISLOCATION OF THE ANKLE-JOINT.

[See Original Communications, p. 595.]

DR. ADDINELL HEWSON stated that his experience was not altogether definite in pointing to the treatment by amputation. He had gained a good result, with only slight resulting deformity, in a young person who had sustained a compound dislocation of the ankle. He had reduced the luxation, and then suspended the limb while keeping it lying on the fibular side.

Dr. William Hunt's experience in the Pennsylvania Hospital among adults led him, as a rule, to favor amputation. There was less risk in amputation than in conservatism, and a good point for the application of an artificial leg was attainable. If the shock would not permit a primary amputation, a secondary operation might be available.

Dr. Thomas G. Morton had at times made an incision, in order to get an opportunity to examine the parts, when he felt sure there was a fracture leading into the joint. In such cases he advised immediate amputation.

Dr. John H. Packard thought that each case should be treated upon its own merits and by no rigid law, for, though statistics showed that amputation at the lower third of the leg was favorable, the fact that the posterior tibial artery was intact would render conservative efforts justifiable in certain instances. The involvement of the tarsal bones in the injury was an important element to take into consideration, since the probable occurrence of subsequent necrosis would make the condition less favorable for conservative measures.

Dr. John Ashhurst, Jr., thought that several classes of injury were being confused in the discussion. When the astragalus was entirely dislocated there was much greater injury done to the soft parts than when only partial displacement occurred. Again, a fracture entering the joint made the case much more serious than a simple fracture of the fibula, though there might be a dislocation in either instance.

In Pott's fracture, with partial displacement of the astragalus, accompanied by a wound, there is no true dislocation, and conservative treatment without operation may be tried.

If there had occurred a true compound dislocation without fracture, and operation was required, he would prefer in young and healthy adults excision to amputation. If, however, there was compound luxation with fracture of a bad form, amputation was to be done. The danger in all these compound injuries arises from confined pus, and free escape for pus is certainly given by excision. In his opinion, complete excision of the astragalus was better than to attempt partial excision of the joint. Statistics show that primary excisions are not so unfavorable as they were formerly considered. When the joint was completely crushed, amputation would be done by all surgeons.

Dr. J. Ewing Mears mentioned in this connection a patient who died from pyæmia, after having refused to allow amputation for an injury of this kind, where great comminution existed.

Dr. D. Hayes Agnew stated that he would

invariably amputate in the hypothetical case presented by Dr. Brinton.

THE OBLIQUE INCISION IN OPERATIONS.

Dr. Packard desired to call attention to the advantage of oblique cutaneous incisions in avoiding scar and favoring immediate union. Two weeks previously he had removed a large breast by oblique incisions, and had dressed the wound with adhesive plaster and cerate, after securing the vessels with catgut. On the fifth day the wound had healed from end to end, and there had not been enough pus to soil the dressing. The method had been previously recommended by him, elsewhere, as a method of avoiding scar, but, as it seemed to promote union by first intention, probably because of the larger surface of contact, he desired to bring the subject to the notice of the Academy.

John B. Roberts,
Recorder.

REVIEWS AND BOOK NOTICES.

The Hair: its Growth, Care, Diseases, and Treatment. By C. Henri Leonard, M.A., M.D., Professor of Medical and Surgical Diseases of Women and Clinical Gynæcology in the Michigan College of Medicine, etc. Illustrated by one hundred and sixteen engravings. 8vo, pp. 315. Detroit, C. Henri Leonard, Medical Book Publisher, 1880.

Prof. Leonard tells us that his treatise is "of as much value to the laity as to the profession," and it is evident that he has had two classes of readers in his mind, for while the earlier chapters of the book contain much information with regard to the chemistry, anatomy, and physiology of the hair, other chapters are filled with anecdotes and legends, scraps of poetry, and more or less apt quotations from various prose writers, such as we have long been accustomed to find in popular works on the skin and hair. The mixture is not a happy one, for the book is too scientific in parts for the lay reader and much too superficial for the student. The absence of exact reference is a serious fault, for many of the statements made, which would be very interesting if true, cannot be verified, and are consequently worse than worthless.

Dr. Leonard has serious scruples with regard to lending himself to the pernicious custom of dyeing the hair, but coyly yields, not without a show of resistance, and gives a full chapter of formulas and directions, now and then begging his readers not to have anything to do with these deleterious cosmetics, and washing his hands of all responsibility in the matter. The earlier chapters are devoted to the physiology of the hair; the body of the book is taken up with a description of the various diseases of the scalp and hair, followed by chapters on customs of dressing the hair, etc.; and the work is concluded by a chapter on beards.

The most satisfactory portions of the work are those where the author gives his personal experience, but these are not numerous, and the rest of the book, although evidently the result of much reading and investigation, is rendered useless for the student by the absence of reference to authorities.

Dr. Leonard being Master of Arts as well as Professor, we cannot suppose him responsible for the almost innumerable literary and grammatical blunders which disfigure his book; but we are bound to say that his proof-reader has betrayed him shamefully, for a work so crammed with errors of this sort it has never before been our misfortune to have to read.

A. V. H.

The Student's Manual of Venereal Diseases. Being the University Lectures delivered at Charity Hospital, B. I., during the Winter Session of 1879–80. By F. R. Sturgis, M.D., Clinical Lecturer on Venereal Diseases in the Medical Department of the University of the City of New York, etc. New York, G. P. Putnam's Sons, 1880. 12mo, pp. 196.

Take it all in all, this is by far the most instructive and interesting manual of venereal diseases with which we are acquainted. Dr. Sturgis is a writer of reputation on these affections, and, though simple and elementary in its scope, his little book shows everywhere the hand of a master. The ground usually covered by treatises on venereal diseases is fully gone over, but by rigidly excluding all extraneous matter, by refraining from the discussion of mooted points and confining himself to the most concise description of the affections commonly met with, Dr. Sturgis has managed to include within the covers of his manual pretty much all that it is advisable for the student to know in order to cope with ninety-nine out of a hundred of those cases he is most apt to be called upon to treat. Added to this, Dr. Sturgis is master of an easy and attractive, though occasionally somewhat slipshod, style, and he has emphasized the important points by italics, which catch the eye, rivet the attention, and are apt to be retained in the memory. Without at all competing with the excellent works of larger size, like Bumstead and Taylor, of which the profession in this country is justly proud, Dr. Sturgis's book is invaluable for the student and practitioner. We regret to observe several errors of composition and grammar, with numerous typographical blunders.

A. V. H.

The Microscopist. Fourth Edition. By T. H. Wythe, M.D. Philadelphia, Lindsay & Blakiston, 1880.

We cannot call to mind any medical book which bears such testimony to "Westward ho!" as the rallying-cry of modern civilization. Here is a first-class scientific work issuing from the Western portals of the East, —from the doorway which opens to the great barbarism of Asia. The setting sun is almost vanquished.

In the present volume we have a great enlargement of previous editions by the addition of both text and illustrations until the former has swollen to nearly four hundred and fifty pages and the latter to over two hundred and fifty figures. The work is certainly more complete than it was, and can be commended as an excellent guide to the young or inexperienced microscopist. The old hands had better purchase such a book as the "Micrographic Dictionary," which is a library in itself.

THE VENEREAL DISEASES, INCLUDING STRICTURE OF THE MALE URETHRA. By E. L. KEYES, A.M., M.D., Professor of Dermatology and Adjunct Professor of Surgery in the Bellevue Hospital Medical College, etc. New York, William Wood & Co., 1880. 8vo, pp. 348.

The subscribers of Wood's Medical Library are fortunate in having so admirable a work as this included in the series for 1880. The name of Dr. Keyes is sufficient guarantee that the views presented are original as well as fully up to the level of our knowledge on the subject of which it treats. In scope Dr. Keyes's book occupies a middle place between exhaustive treatises, like that of Bumstead and Taylor, and elementary manuals, like that of Sturgis. Venereal diseases are treated systematically, all important points being dwelt upon and minor topics passed over without undue discussion. A large number of coarse but effective wood-cuts, from Dr. G. H. Fox's well-known photographic series, illustrate the text, and aid greatly in demonstrating the arrangement and distribution of the various lesions.

The typographical errors in this book would make angels weep. If Dr. Keyes can look with unmoved countenance on such a heading as that of "The pustulo-*bulbous* syphilide" (p. 160), he must have been hardened by the frequent sight of this extraordinary word on previous pages. A. V. H.

THE PRACTITIONER'S HAND-BOOK OF TREATMENT, OR THE PRINCIPLES OF THERAPEUTICS. By J. MILNER FOTHERGILL, M.D. Second American from the Second London Edition. Philadelphia, H. C. Lea's Son & Co., 1880.

This book was, in its original edition, carefully reviewed in this journal, and the opinion arrived at that it was an eminently practical and useful volume. The success predicted has been achieved, and we welcome the new edition as an improvement upon the old one, in that it contains certain additional discussions of important subjects, such as, When to Give Iron, The Means of Acting on the Respiratory Nerve-Centres, Artificial Digestion, Ovarian Irritation and its Reflex Consequences, etc.

THE SKIN IN HEALTH AND DISEASE. By L. DUNCAN BULKLEY, M.D., etc. AMERICAN HEALTH PRIMERS.—No. X. Philadelphia, Presley Blakiston, 1880.

Dr. Bulkley's reputation as a dermatologist insures the scientific accuracy of this popular work, and it may be added that the clear and concise manner in which the subject is treated makes it pleasant and, in most respects, profitable reading to the layman, and not without value to the physician other than specialist. We think Dr. Bulkley has made a mistake in including a miniature treatise on skin disease within the pages of his work. Nothing good can come of this course. The layman who sips of this Pierian spring of dermatological lore will obtain just that little knowledge which is so dangerous to himself and so trying to the physician, who may have to cope with his patient's "information" as well as with his disease. A. V. H.

GLEANINGS FROM EXCHANGES.

TREATMENT OF SPINAL CURVATURE BY HAMMOCK-SUSPENSION.—In the *British Medical Journal* for June 26, Mr. Richard Davy, the well-known orthopædic surgeon, publishes a lecture on this form of treatment. He takes exception to one or more points advocated by Sayre, these exceptions applying principally (1) to the risk and personal discomfort, both to the patient and surgeon, of the tripod suspension; (2) to the cracking, creasing, and consequent insufficiency of the support, due to the necessary shift of the patient's surroundings; (3) to the weight of the plaster of Paris.

Mr. Davy believes, as a result of numerous experiments with hammocks, that more spinal curvatures will be fortified in the manner to be described than after the suspension method of Sayre. The method is as follows. A piece of strong canvas is procured longer than the patient's height, and the arms are passed through two slits in the canvas at suitable points, so that in the first instance a loose, canvas, long apron, with ends, one turned downward over the chest and the other on the floor, fits round the front and sides of the body. This apron is then removed from the patient, and a vest applied of thicker material and far more open mesh than those usually supplied by the surgical instrument makers. The canvas hammock is next slung at two fixed points, by attaching its folded ends with two stout bandages; and the surgeon should test its bearing-power by the weight of his own body. The patient is placed in the canvas (as represented in an engraving) prone on his belly. No dinner-pad is required, because the manipulations are performed after a good meal. At this stage an aperture is made over the patient's lips to permit free breathing and conversation. The patient is then finally localized in position according to the variety of spinal curvature (extension by the head, arms, and legs being applied by those surgeons who deem it to be necessary), and the surgeon leisurely applies the plaster of Paris or other fixing material, including the canvas, which, of course, has been accurately cut to fit the dorsal contour. After the bandages have been carefully laid on (and the ease of so doing is very great in this position), the patient presents the appearance of a person lying on his belly in a hammock, and bandaged in from shoulders to hips (as is well shown in another illustration).

The free current of air around the patient's body, and, if the surgeon please, the hammock's suspension near to a fire, facilitates the regular and simultaneously complete drying of the plaster; and so very comfortable are young children in these hammocks that they either enjoy the swinging motion or not unfrequently fall asleep. When the bandage has firmly set (and not before, for the patient can remain swung for any reasonable space of time), the whole hammock and patient are taken down; the superfluous ends are neatly cut off with scissors, the remnant of the hammock which is allowed to remain acting as an accessory vest to the patient's frame.

This hammock-suspension, Mr. Davy maintains, obviates all the inconveniences and risk to patients; secures the advantages of Sayre's method; facilitates the manual procedures of the surgeon; permits of quick and equable drying; and necessitates no change of posture between the application of the supporting bandage and its final setting.

Mr. Davy is experimenting on felt bandages saturated with a quickly-drying solution, to take the place of the heavy plaster of Paris. He can highly recommend a solution of plaster of Paris and hair intermixed. Any surgeon can carry the hammock and bandages in his coat-pocket, and so operate easily at the child's home instead of its being brought to the tripod. The cost of the hammock is trifling, and it may be extemporized out of a common sheet or a long night-gown.

PILOCARPIN IN ASTHMA.—Dr. J. B. Berkart (*British Med. Jour.*, 1880, vol. i. p. 960) recommends very highly the employment of pilocarpin in some forms of asthma, and adds notes of a number of cases in which he has employed this remedy by hypodermic medication in doses of one-fifth of a grain with success. In all his cases the asthmatic paroxysms were relieved speedily,—that is, within a few minutes; and that relief was due not merely to the suppression of the painful perception of the dyspnœa, but to the removal, as far as practicable, of its remote causes. Moreover, the improvement lasted long after the effects of the drug had passed off, and in several instances it was almost complete.

Klebs, it appears, has obtained equally favorable results by the same means. In the very obstinate forms of catarrhal inflammation of the lungs proceeding from cavities, which again and again return, usually accompanied by fever, but occasionally without it, he has never seen lasting benefit from the use of so-called expectorants. Here pilocarpin, one-sixth of a grain, applied by subcutaneous injection, has rendered the best services.

A drawback to the administration of pilocarpin may be supposed to exist, in that it occasionally produces nausea, and even collapse. However, these unpleasant after-effects may be to a great extent obviated by precautionary measures; and it is quite possible that the smaller dose which Klebs recommends may be sufficient also in the cases of asthmatics, and free from every inconvenience.

If, nevertheless, on that score objections were raised to its use, it needs but be remembered, to refute them, that most of the palliative remedies of asthma, especially the so-called depressants, are attended by very disagreeable symptoms, which often persist for days after their administration; and thus it will be found that, after all, the balance will be in favor of pilocarpin.

In all cases of chronic pneumonia in which the nutritive disturbance proceeds from the surface of the bronchi and gradually spreads to the stroma of the lungs, or in which it commences in the interstitial tissue and implicates the mucous membrane of the air-tubes,—whether the process terminates in atrophy or sclerosis,—there pilocarpin, provided the state of the heart offers no contra-indication, will prove beneficial. More speedily and more safely than any other remedy it relieves the congestion of the bronchial mucous membrane; favors the expulsion of the obstructing plug of the air-passages; prevents the formation of viscid mucus; diminishes the swelling of enlarged bronchial glands; and initiates a reparative process, if such be yet possible, in the infiltrated connective tissue of the lungs. Although in its effect it somewhat resembles that of a warm or, rather, of a Turkish bath, it is, for many reasons, preferable to the latter, even in the intervals between the asthmatic seizures, where alone there can be a question of substitution. To obtain, however, the full benefit it is capable of producing, pilocarpin should be used systematically. It should be injected at intervals commensurate with the forces and the other circumstances of the patient, until the pathological changes in the lungs of the patient are perceptibly improved.

A NEGLECTED SYMPTOM IN BREAST-CANCER.—Dr. Herbert L. Snow, of the Brompton Cancer Hospital, calls attention

(*Lancet*, 1880, vol. i. p. 912) to a symptom of cancer of the breast which is usually overlooked. He refers to a thickening of the humerus on the side corresponding to the diseased gland, accompanied by tenderness on pressure. This condition obtains mainly over the trochanters and the upper third of the bone. On firm pressure the patient complains of tenderness, which tenderness extends for a variable distance down the shaft beyond the part where thickening is apparent. The tenderness and thickening rarely interfere with the movements of the arm, and are never noticed by the patient before examination: they are detected only by digital pressure and comparison with the humerus on the opposite side. Occasionally (but not often) there is also some thickening of the clavicle. The condition never advances to any very marked hypertrophy. These symptoms are usually found early in the course of the disease, and simultaneously with the commencing enlargement of the axillary glands. Dr. Snow regards the thickening as a low form of periostitis consequent upon the deposit of cancer-germs in the medulla.

MISCELLANY.

Giovanni Polli, a well-known Italian physician, died, after a long and tedious illness, on the 14th of June, in his 67th year. He was born in Milan in 1812, graduated in medicine in 1837, and in 1839 was assistant-professor of chemistry in the Lyceum of St. Alexander. He gradually rose until, in 1860, he was appointed Professor of Applied Chemistry in the Royal Institute of Technology. Among his numerous and important works may be mentioned his investigations on diseases of fermentation origin (1860–62), with his observations of the action of sulphurous acid and sulphites on zymotic diseases, which he submitted to the congress held at Dublin in 1867; also papers upon the anti-fermentative influence of boracic acid and its therapeutical applications came from his pen.

Professor Rizzoli, who died recently at Bologna, at the age of 70, was a man of most liberal tendencies, and universally respected as much for his social qualities as for his scientific attainments. Just previous to his death he made a donation of one million two hundred and fifty thousand francs to the city of Bologna, to be devoted to the erection and maintenance of an orthopædic institute.

Professor Ferdinand von Hebra, the distinguished dermatologist, died in Vienna on August 5, at the age of 64.

Poisonous Dyes.—A correspondent of the *Lancet* of June 5 gives the case of a young lady who had worn a pair of cardinal-red silk stockings for three days, and who was attacked at the end of that time with an erysipelatous inflammation of both feet and toes. The top of one great toe subsequently became gangrenous and sloughed off. The patient was for a long time very ill.

A little bicarbonate of sodium added to the water in which the hands are washed after applying plaster-of-Paris bandages immediately removes the plaster.—*Western Lancet.*

NOTES AND QUERIES.

To the Editor of the *Philadelphia Medical Times:*

Dear Doctor,—In the issue of the *Times* for July 17 appeared an editorial on consultations, which has called forth much comment among the younger members of the profession. As one of this class, I think I can safely assert that most of us heartily endorse the sentiments you express, and much regret the prevailing infrequency of consultations. Very, very often we would be glad to call to our aid the broader knowledge, the keener insight, and the larger experience of older men. Then, why do we not call them? The reason is not far to seek. In the editorial referred to it is said, "If he [the consultant] is called in by the family doctor, he is bound by every tie of equity, and also of self-interest, to refuse to attend the family subsequently, even if pressed to do so." Unfortunately, we have learned that "equity and self-interest" combined are not strong enough to restrain some prominent physicians from appropriating our patients at the first opportunity. Such conduct is, of course, unprofessional, wrong, and bad; but what can we do? These men have established reputations; we have not. They will care no more for our protests than the physiologist does for the whinings of a vivisected dog. Unable to protect ourselves against the abuse of consultations, we avoid them. When perplexed, we have recourse to our books and to conversations with our class-mates,—men no wiser than ourselves. Without doubt, there are men high in the profession who are punctiliously honorable to their younger brethren; but there are a good many upon whom obligations of this kind rest very lightly.

Yours, respectfully,

J. W. W.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 8 *TO AUGUST* 21, 1880.

McKee, J. C., Major and Surgeon.—Granted leave of absence for one year on Surgeon's certificate of disability. S. O. 177, A. G. O., August 19, 1880.

Happersett, J. C. G., Major and Surgeon.—At the expiration of his present leave of absence, to report to the Commanding Officer, Fort Ringgold, Texas, for duty as Post-Surgeon. S. O. 161, Department of Texas, August 10, 1880.

Taylor, M. K., Captain and Assistant-Surgeon.—Assigned to duty as Post-Surgeon at Fort Concho, Texas. S. O. 161, c. s., Department of Texas.

O'Reilly, R. M., Captain and Assistant-Surgeon.—His leave of absence on account of sickness extended four months on Surgeon's certificate of disability. Relieved from duty in Department of the South, and at expiration of his present leave of absence to report by letter to the Surgeon-General. S. O. 174, A. G. O., August 16, 1880.

Havard, V., Captain and Assistant-Surgeon.—To proceed to Fort Clark, Texas, and report to the Commanding Officer First Infantry for duty with his command. S. O. 158, Department of Texas, August 8, 1880.

Moseley, E. B., Captain and Assistant-Surgeon.—His leave of absence extended ten days, with permission to apply for a further extension of two months. S. O. 75, Department of the Platte, August 17, 1880.

Carter, W. F., First-Lieutenant and Assistant-Surgeon.—When relieved by Assistant-Surgeon Taylor, to report to Commanding Officer, Post of San Diego, Texas, for duty as Post-Surgeon. S. O. 161, c. s., Department of Texas.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 11, 1880.

ORIGINAL LECTURES.

CLINICAL LECTURE
ON OVARIAN TUMOR AND ON RECTO-VULVAR FISTULA.

BY WILLIAM GOODELL, M.D.,

Professor of Clinical Gynæcology in the University of Pennsylvania.

Reported by CHARLES W. DULLES, M.D., Surgical Registrar to the University Hospital.

OVARIAN TUMOR.

GENTLEMEN,—The first case I have to show you is one that illustrates the difficulty of diagnosticating the nature of abdominal tumors. The patient is a colored woman, 47 years of age, who has had five children, the youngest of whom was born twelve years ago. One year ago she noticed some enlargement of the abdomen, which has rapidly increased ever since, until now she presents herself with a tumor so great that the girth of her abdomen at the umbilicus is forty-seven and a half inches. Her menstruation was regular until last February, three months ago, when it ceased altogether. At the same time she has been losing flesh, and now has some œdema of the legs.

Now, ovarian tumors are very rare in colored women. Mr. Spencer Wells, who has performed more than a thousand operations for ovarian tumors, was recently in this country. While here he had occasion to examine an abdominal tumor in a colored woman, and declared his opinion that it was ovarian. Dr. Atlee, of this city, who was present, called his attention to the fact of the rarity of ovarian tumor in the race, which affords such opportunity of observation in America, and Mr. Wells made another and more careful examination. After this he concluded there was a fibro-cystic tumor of the uterus. This ultimately proved to be the correct diagnosis.

Now, in our case, we have a very large tumor. It gives marked fluctuation. And yet, when I come to tap it, I may be wholly unable to get any fluid, for the contents may be colloid. Again, this may be an effusion into the peritoneum, but it looks too much like a pregnant uterus for me to think that likely. It is too globular,—not flat, as the effusion into the peritoneal cavity usually is. On percussing over the flanks I do not find resonance, but the dulness is much less marked than in front, so it is not likely this is a fluid free in the abdominal cavity.

I presume, then, that we have here a cystic tumor; and I mean to tap it. And I wish to tap it painlessly. To do this I take a piece of ice, put salt upon it, and then apply it to the skin, so as to freeze the part where I mean to puncture,—that is, in the linea alba, about midway between the symphysis pubis and the umbilicus.

While I wait let me tell you that, if this proves to be a fibro-cystic tumor of the uterus, there will be very great difficulty and danger in its removal. If, however, it is ovarian, the danger is not by any means so great. The cessation of the menses about a year ago makes the latter supposition seem more tenable.

Now I think we are ready, and I plunge a large aspirator needle straight in. The woman felt it, you see, but only a little, she says. The tube of the needle is now attached to this large jar, from which the air has been exhausted, and we look, when the cock is turned, to see the fluid descend into the jar. But not a particle comes. I said I did not think this fluid was colloid, but it now looks as if it were. We exhaust the air a little further, and out come a few sticky drops, like jelly. I am surprised, and cannot understand the marked impression of fluctuation which I got on palpating the tumor. This leads me to think we have an ovarian tumor here. Yet the diagnosis is not easy without examining microscopically the fluid obtained. When this is not done a mistake may easily occur. It has happened once to me, and I do not purpose to have it happen again; so I will have some of the fluid examined, and, if there are found in it the cells peculiar to ovarian tumor, I shall know what I have to deal with.

Our operation is now over; we have got scarcely any fluid, and it only remains to draw the trocar out and cover the puncture with a slip of adhesive plaster.

You might ask if there is any danger attending so trifling an operation. I used to think not, and would plunge a trocar in without hesitation. But I have learned a lesson. Only last week I had a case in which peritonitis followed this operation. I had to remove the cyst, and, when I opened the abdomen, out came a lot of bloody water, and a large number of old clots. I have told you of a cyst I tapped from which a stream of blood flowed. In that case, had I used an aspirator I think I should have had internal hemorrhage.

Now let me show you how the needle is to be withdrawn. I press the sides of the puncture down and away as I withdraw it. If I had emptied the tumor and its wall were flaccid, I should pinch it up against the needle, so as to close up the opening as much as possible and prevent any fluid from getting into the peritoneal cavity.

Having sent the woman out of the room, I wish to tell you that I regret very much that I did not succeed in emptying that cyst. One reason is because its wall is very tense, and I am afraid, small as is the opening I made, that some of the contents will get out into the peritoneal cavity. And although I believe the acridity of such fluids has been much overrated, yet I know they do sometimes light up a peritonitis and give a great deal of trouble. Again, if I had succeeded in emptying the cyst it would have been from four to six weeks before it filled up again, and we should have had time to get the woman into better condition for operation than she is now. Further, when the operation came to be done it would be safer to carry out than with so tense an abdominal wall.*

RECTO-VULVAR FISTULA.

Here, gentlemen, is a very rare case. It is so rare that its existence has been denied by some gynæcologists. But I do not see why it should not occur, and, indeed, much oftener than it does. We have already attempted to close this fistula up. I have had it injected with a saturated tincture of iodine, but this has not done much good.

On examining, we find an opening in the right labium majus, going into the lower bowel, and the question arises how we had best operate. With a man there is not usually much difficulty, but in a woman cutting might destroy the perineum, and so we cannot always do it. In the present case it is fortunate that the opening is on one side, and so I think we can effect its closure from the bottom by employing the elastic ligature. If this works well, it will heal up behind as fast as it is being cut out in front, and we shall not impair the integrity of the perineal body at all.

This is the first true case of recto-vulvar fistula I have ever seen. She comes to us in good general health, but she finds such a lesion makes her repulsive to her husband, and she is also annoyed by a discharge of flatus through this opening.

Having tied up the elastic ligature, I shall have an opium suppository put at once into the rectum, so as to counteract the pain which the ligature will cause as soon as she comes out from the influence of the ether.

And now what shall be your rule in case of abscesses in the vulva or vagina? Open them as soon as you find pus. Open them on the mucous surface if you can, because then the resulting scar is concealed, and the cicatrix is softer and less apt to contract. You need not be afraid of hemorrhage if you use ordinary care. For even if you should have it, it is usually not hard to control.

In regard to styptics, let me say a word. I formerly used Monsel's solution, but I never do so now unless I am forced to it. It makes hard, dirty clots that hold like plaster of Paris when you want to get them away. When these break down they become offensive and dangerous to the patient. For this reason I think iron should not be used for post-partum hemorrhage. Besides all this, it contracts the parts so that you are debarred from further access to them. Lately I have used vinegar a great deal as a styptic, and like it very much. It is clean, and usually quite sufficient to control the hemorrhage in gynæcological operations.†

ORIGINAL COMMUNICATIONS.

IS CANCER INOCULABLE?

BY J. L. SUESSEROTT, M.D.

THE above question suggested itself to me after contemplating a portion of the very able "Address in Hygiene" read by Richard A. Cleemann, M.D., before the Medical Society of the State of Pennsylvania at its thirtieth annual session, held at Chester, May, 1879.

That an entirely satisfactory solution of the grave question will be ever arrived at admits of doubt. One of our most eminent modern pathologists asserts that

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* An account of the removal of this tumor by abdominal section—when it proved to be a colloid cystic tumor of the ovary—will appear in a subsequent number of this journal.

† The patient was cured by this operation.—REP.

"carcinomata can rarely with adequate reason be attributed to external local causes, whilst it is very common for them to luxuriate in internal organs beyond the reach of palpable influence from without." Farther on the same author states that "the highest grades of cancer-crasis originate through infection,—that is, through the reception into the lymphatics, or more especially into the blood-vessels, of cancer-cells, or of cancer-blastema, of a lax, soft, semi-fluid character. The blastema is carried thither by imbibition, partly in the mere act of nutrition, partly with or without the cancer-cells, through the lymphatics or veins laid open by ulceration of the tumor, or, lastly, by the cancer penetrating into the canals of blood-vessels."* This, of course, implies a multiplication or reproduction of the disease in a subject already cancerous; but is it not possible to introduce these cancer germs by means of an impregnated blastema in the form of lymph that has been removed from a cancerous subject through channels that would be little suspected? I do not pretend to convey the idea that this supposed infection is as virulent, or that it is, as it were, constantly on the alert seeking whom it may destroy, as is the poison of syphilis; but may not the alarming increase of this dread malady be partly accounted for by the introduction of minute germs through the old and, we are glad to say, rapidly-disappearing method of "arm-to-arm vaccination"? When first introduced, these germs may possibly be insufficient to develop a decided cancerous crasis, but by the process of intermarriage of those thus affected, on the principle of duplication of the weakness of the two systems, the products of these marriages appear with an intensified predisposition in that direction, and by reduplication and further inoculation the disease in its pronounced type is fully developed. Lest some who have not given this matter a thought may imagine that the fact of the alarming increase of this malignant and fatal malady does not exist, permit me to quote from the able paper above referred to: "For seventy years the mortality from cancer in Philadelphia has been a little more than eleven deaths in one thousand of the mortality from all causes,—apparently not a large proportion; yet the sum of the deaths from this disease during that period, when reckoned up, reaches an aggregate of above six thousand, or more than half the number of deaths from smallpox during that same time. This, however, is not the whole story. An extraordinary result is reached when we compare the death-rate of this terrible disease in the earlier years with that which obtains in later times. During the five years from 1807 to 1811 (inclusive) the proportion of deaths from cancer to the mortality from all causes was 4.5 per thousand, while in the period from 1872 to 1876 the ratio became 16.4. Think of it! an increase in sixty-five years of nearly four hundred per cent.! This ghastly malady, the clutch of which is certain death, gathers to itself (even making allowance for increase of population) four times as many victims as in the beginning of the century! But, you may exclaim, are the statistics reliable? It is not pretended that before the act of registration of births, marriages, and deaths, approved March 8, 1860, went into effect the mortuary lists of Philadelphia were perfectly correct. Doubtless the records of many deaths failed to find their way to the registration office, but there is no reason to believe that the deaths from cancer especially escaped notice; it is more likely that the deficiencies were scattered through the whole list; so that by calculating from those returns the ratio of the yearly mortality from cancer to the general mortality —as we have done—we arrive at a result accurate enough for our purpose, notwithstanding the omissions of the early registration. The conclusion is sustained if we confine ourselves to the statistics of the years of reliable registration since (1860), though, from the proximity of the periods to be compared, the actual results obtained present a less striking picture. Making use now of a different ratio,—that of the number of deaths from cancer to the population living, by which we eliminate the errors incident to the employment of the total mortality as a standard, affected as this is by the varying meteorological conditions of different years and the fitful sway of epidemics,—we find, in the period from 1862 to 1866, a yearly average of 3.14 deaths to ten thousand of the population living, while in that from 1872 to 1876 the ratio was 3.92 per ten thousand, making an advance for the later years by this method also, now equalling twenty-five per cent. If, as some suppose, the estimates of the population of Philadelphia for the years since the last census was taken —which were made according to the method used in the Bureau of Labor and Statistics —are too high, then the support will be still stronger, for the ratio for the later years will be even higher.

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* Rokitansky's Path. Anat., vol. i. pp. 196, 197.

Another stone may be cast at my statistics. It may be objected that the greater precision of modern diagnosis places now in their true category morbid conditions which would formerly have been classed simply as tumors, ulcerations, strictures, or merely as diseases of various organs; and I confess that it seemed to me, at first sight, that this would fall with crushing weight upon my perhaps too hastily wrought structure. But I went over the lists again, counting and comparing the mortality for *tumors*, choosing the caption because I thought this term was the one most likely to cause confusion in the records of cancer. I ought to have found the mortality from tumors diminished as the years rolled on if death once attributed to them afterwards came to fall under the cause of death cancer. But the contrary was the result; the proportion of deaths from tumors increased as well as those from cancer. I did not go through the same process concerning the mortality from ulcerations and from strictures, but I made up my mind that the stone was a pebble after all, and my house stronger than one of glass; and I also reflected that in the fifteen years of accurate registration at least, from the earlier part of which to the close there had been an increase of twenty-five per cent. in the mortality from cancer, there has certainly not been a parallel advance in the refinement of diagnosis. I found, too, searching the records of London mortality (the models for the world), that they told the same story of the increased death-rate of cancer. In that city during thirty years (from 1845 to 1874) the rate advanced from 3.4 per ten thousand inhabitants living to 5.7 per ten thousand,—an increase of seventy per cent.

If, then, I have unhidden a grain of truth, need I pause to draw back the curtain from the hideous prospect to which it leads us? Four times as many smitten with cancer now as fell two generations ago, what might we expect for those who are to come two generations after?

This is a burning thought, which comes home to us, and which it is our business as hygienists to heed. In this extremity medicine has proved, so far, powerless. Sometimes the knife, in merciful mutilation, has prolonged a life, but the end has been the same,—agonizing death. Can we meet the danger? Unfortunately, the physiologist or pathologist has brought us no new clue by which we may go directly against the enemy. Whence he comes is as much a mystery as ever. But clinicians, in their careful histories of disease, have traced the taint of cancer back from one generation to another, and, establishing the active part which heredity plays in determining the disease, give us a vantage-ground upon which to try resistance. Inspired by this fact, shall we not say, as disciples in hygiene, to those inheriting the predisposition to cancer, "Marry not; or, at least, marry not together"? The intrinsic merit of the address so largely quoted from is sufficient excuse for its appropriation. But, in conclusion, let me add, is not this appalling increase of this one hideous disease within the last two generations enough to make us consider whether it is not possible that some modern practice upon the human system may not be in a measure responsible for a large proportion of it? And, inasmuch as no one thing could have exerted so active an influence as vaccination, should we not abandon now and forever the use of lymph procured from the human subject? The supply of bovine virus is taken from animals among whom the dread disease, cancer, as compared with the human family, is not of frequent occurrence; and, even if it were, there is not the same danger of condensing the poison by reduplication. But if danger is apprehended from this source, and vaccination is condemned *in toto*, let the edict go forth that "neat-kine" shall no longer be used as food, especially in the uncooked forms so commonly in use.

CHAMBERSBURG, PA., September 3, 1880.

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COMPRESSION OF THE AORTA.—On June 25, says the *Lancet*, Mr. Richard Davy compressed the abdominal aorta by means of a metal lever introduced into the rectum in a case of excision of cancer of the uterus performed by Dr. Potter. The operation was almost entirely bloodless, and the pulsation in both femoral arteries was completely arrested. This procedure has not been followed by any untoward result.

DEATH FROM DIPHTHERITIC PARALYSIS.

BY D. WEBSTER PRENTISS, A.M., M.D.,
Washington, D.C.

THE following case presents some points of interest which, I think, are worthy of being made a matter of record:

F. S., a female child, aged 4 years, of consumptive family (mother's side); delicate constitution.

June 17, 1880, attacked with tonsillitis.

June 20, on examination of throat, found right tonsil covered with thick whitish-gray membrane; same commencing on left tonsil. High fever, quick pulse, and great depression. Prescribed—

℞ Acidi carbolici, gr. i;
Glycerinæ, gr. c.

Apply to throat with camel's-hair brush every two hours.

℞ Potassii chloratis, gr. iv;
Tinct. ferri chloridi, gr. viii;
Syr. aur. flor., gr. xv;
Aquæ, ad gr. lx.

M.—S. Teaspoonful every four hours.

℞ Spt. æth. nit., gr. xv;
Syr. limonis, gr. xv;
Liq. ammon. acet., ad gr. c.

M.—S. Dessertspoonful every four hours.

These two medicines to be taken two hours apart.

The false membrane ceased to spread from first application of carbolic acid solution, the patient improved, and by June 24 no membrane was visible, and the attendance ceased, with instructions to continue the iron mixture a few days longer and look out for symptoms of paralysis.

July 21, the parents first noticed failure of power in the legs, uncertainty in the gait, staggering, frequent falls, and dragging of the legs. This was followed by affection of the speech,—words indistinct, jumbled together, and with a sound as of "talking through the nose."

July 25 I was consulted at my office for the leg-paralysis, and ordered emulsion of cod-liver oil and tonic doses of strychnia dissolved in elixir of calisaya.

July 27, difficulty in swallowing added to other paralytic symptoms; food passes into larynx, causing strangling, and is regurgitated through the nose. Muscles of the neck are implicated; in certain positions the aid of the hands is required in moving the head. This is especially the case when the child is on her hands and knees, the mother being called to raise and support the head. The mother noticed a strange appearance of the eyes,—just what, she could not describe; but from her statements there was at times alternate dilatation and contraction of the pupils.

July 28, was again consulted at my office, on account of dysphagia. Medicine prescribed on 25th had not been given. Insisted on the prescriptions, and directed if they could not be given by mouth to give by rectum.

About this time the strangling-spells became attended by attacks of dyspnœa. There was accumulation of secretion in the bronchial tubes, without the ability to expel it by coughing.

July 31 I was sent for at 1 A.M., on account of two violent attacks of dyspnœa, which threatened suffocation. Found her quiet, but greatly exhausted. No medicine had been taken, in consequence of the dysphagia and the great resistance made to its administration. Had taken but little food for five days, although complaining of hunger. Coarse bronchial râles abundant over whole of both lungs. Bowels constipated. Ordered castor oil enema, to be followed by nutrient enemata of milk, beef-juice, and whisky.

July 31, 11 A.M.—Bowels moved from castor oil. Has retained nutrient enemata, and seems easier. Breathing spasmodic in inspiration. Bronchial râles unchanged. Treatment continued. Milk-punch by mouth if possible.

July 31, 8 P.M.—Semi-comatose. Breathing labored, with jerky inspiration. Surface cyanotic; eyes sunken; râles more abundant. Ordered—

℞ Ammon. carb., gr. iii;
Tinct. bellad., gr. iii;
Mucilaginis, gr. xvi;
Aquæ, gr. cxxviii.

M.—Tablespoonful every two hours by enema.

She rallied after these injections, and became conscious, but grew weaker and weaker, and died at 3 A.M. of August 1. No autopsy.

Remarks on Case.—The treatment prescribed for the diphtheria is given in detail in this case because it is the plan of treatment I have followed for a number of years and have every reason to be satisfied with. Of twenty-five or thirty cases thus treated there has not been a single death. In nearly every instance the membrane has ceased to spread upon commencing the use of the carbolic acid. In children sufficiently old to use the steam atomizer, and in adults, I make use of the following:

℞ Acidi carbolici, } equal parts.
Glycerinæ, }

Fifteen drops in an ounce of water every two hours by inhalation.

In younger children the treatment used in the case here reported has been followed. In one instance only did the membrane extend to the nasal passages, and in one only also did it extend to the larynx. This latter case was an infant of sixteen months, who recovered after twice expelling the false membrane in a complete cast of the trachea under the action of turpeth mineral given in 0.12 (gr. ij) doses.

The application of carbolic acid solution, whether by brush or atomizer, is soothing to the throat and grateful to the patient. It has the advantage, besides, of being a powerful antiseptic, correcting the fetor and destroying the contagion of the disease. That diphtheria is principally contagious through the medium of the throat discharges there can be little doubt. Since using this treatment systematically I have not seen an instance in which the disease was propagated from a case so treated. As to the mortality, that may be a coincidence, for the cases were all sporadic ones. But a sufficient number of deaths from diphtheria appear in the mortuary reports of the District of Columbia during the same period to make the success at least worthy of remark.

The paralysis in this case developed four weeks after the diphtheria. It was undoubtedly the cause of death. The mode of death was by asphyxia,—the asphyxia due to paralysis of respiration, inability to expectorate, accumulation of secretion in the bronchial tubes, and, finally, œdema of the lungs. Upon the hypothesis that the paralysis was affecting the respiratory centre at the base of the brain, the carbonate of ammonia and tincture of belladonna were ordered by enema. The temporary effect of this treatment was marked, but the little patient gradually sank from exhaustion.

SOME THOUGHTS ON RHUS-POISONING.

BY W. R. D. BLACKWOOD, M.D.

THE subject of dermic poisoning by the Rhus family is one of great interest, not only to the patient, but also to the physician, from the severity of the symptoms in many cases, and from the intractable nature of the malady. Having been a personal sufferer for the fourth time in as many years, I can appreciate the gravity of the subjcet, and it is one of more importance than is generally supposed. In this part of the country the source of dermic poisoning is usually confined to three plants of the same natural order (*Anacardiaceæ*) and sexual system (*Pentandria trigynia*). The two more important varieties are the *Rhus toxicodendron*, or poison-oak, and the *Rhus radicans*, or poison-ivy. The *Rhus venenata*, or poison-sumach, is, though not so common, very poisonous to many persons. The most virulent species, however,—the *Rhus pumilum*,—is fortunately not found in the Northern States, or cases would be largely multiplied. Irritating effects are occasionally encountered through handling other plants, but the results are so transitory and mild as to exclude them from notice. The poisonous principle in the plant is probably an extremely volatile one, as undoubted instances are on record of toxic effect produced without absolute contact: in fact, persons are not unfrequently found who are affected during the hotter months should they pass within half a dozen feet or more of the plant with the wind blowing towards them from the rhus. The period of greatest activity is during the flowering season,—from May to October,—but the effect may be produced in some cases at any period, even in winter. Susceptibility to the poison varies in different individuals, and in the same person at different times, probably being dependent on the condition of general health. For many years I was able to handle any variety of rhus with impunity; now the slightest touch will produce decided toxic results. The symptoms after exposure are at first slight but rapidly-increasing itching, with erythematous blush, running, after some hours, into an erysipelatous efflorescence, and in from twelve to twenty-four hours characteristic pearly or herpetic vesicles appear and multiply according to the severity of the attack. A decided febrile condition accompanies the dermic phenomena, which is usually overlooked by physicians who disregard the use of "instruments of precision." The itching as the disorder progresses becomes more pronounced, and is at times intolerable, leading the sufferer to scratch or rub the parts affected, with the invariable result of increasing the pain and vesication alike.

The parts most frequently attacked are those most exposed,—the hands, arms, and face. The back of the hands and fingers suffers more than the palmar or lateral surfaces, especially with reference to the vesicles. Towards the close of the attack scattered vesicles occur on the palm, but not to any great extent; vesication is not so decided upon the trunk as it is on the extremities, the eruption partaking more of the erysipelatous type. Reflex irritation, by inciting friction at parts as yet apparently unaffected, transfers the disorder to that locality. That the transfer is not merely inoculation by the finger-nails in cases which I have carefully watched is proved by allowing the scratching to be done by a person not affected, yet the herpes will be produced in the affected person on apparently healthy parts of the body if the experiment be made during the height of the disease. From this and other points, which cannot be satisfactorily noted in brief, I believe the disease runs a regular constitutional course of from seven to ten days, terminating by desquamation, and treatment has at best but little effect, probably only modifying the severity, but hardly cutting it short. Many agents have been recommended as curative, yet they are apparently of more use in occupying the attention of the patient than of actual service as therapeutic remedies. Personally and with patients I have exhausted the list of the alkalies ammonia, soda, and potassa, the sulphites and bisulphites, solutions of bromine, iodine, carbolic acid, permanganate of potassium, saturated infusions and tinctures of serpentaria and lobelia, stale beer, milk, and numerous ointments, official and extemporaneous, without real benefit. Sweet spirit of nitre has been suggested, but my experience with it is not sufficient to report on as yet. It does not, however, appear to possess value. I am told, also, that earth is useful and is commonly employed in the country; but, although I spent several years in the Southern States, during and after the war, and have seen very much of extremely severe poisoning, such as prevails in the Carolinas, Georgia, and Alabama, I have never seen the article used. The favorite remedies there are decoctions of oak-bark and witch-hazel, neither of which ever does any good to my knowledge.

After a good opportunity to watch and study the disease in my own case, I have found the best method of treatment to be a light saline in the morning, the Seidlitz mixture, or Hathorn Saratoga water, with, if needed, from two to five drops of aconite tincture, and followed towards noon by from three to ten grains of cinchonidia or quinia sulphate without any acid, and a full dose of morphia at bedtime. To allay the distressing torment and itching, *lime-water* is beyond doubt at once the simplest and the best local application. A lump of lime the size of a lemon in two quarts of water is sufficiently strong, and the parts should be thoroughly bathed, the mixture being well stirred up each time it is used. Care must be taken not to get the wash into the eyes if the face be affected. It is the better plan to wet the parts repeatedly, allowing them to dry somewhat, rather than to keep wet cloths on, as is generally done; but where the trunk is largely affected the underclothing may be kept wet, and there is no danger of contracting cold when this is done, if ordinary care as to exposure to draughts be observed. Both galvanism and faradic electricity are remarkably soothing here, as they are in other herpetic disorders,—the common and painful "shingles," for example. I have whilst applying either current to one hand had perfect freedom from painful itching, the other hand being extremely troublesome if not included in the circuit. Mild currents suffice, and the longer the application the more extended the relief afterwards. With galvanism the current should not be interrupted.

After exposure to the poison and before its symptoms manifest themselves, contact with other persons will affect them also. In two instances I have been the means of conveying the poison to patients, not knowing myself to be affected at the time. The first was that of a lady with a Colles fracture, and she suffered more from the herpes than from her surgical injury, as she repeatedly informed me both then and since. The next was a gynæcological case, and she was no better satisfied than the other. During the attack which I have just recovered from, I had the unique experience (to myself) of sitting beside an obstetric case *and leaving the entire conduct of the case to nature*, simply touching the umbilical cord whilst tying and cutting it, but neither examining nor assisting either the performer or her nurse. She did well, and so did the baby. How far contact with others will act after the skin is decidedly affected I do not yet know, but I have recently made some experiments in that direction which so far exhibit negative results.

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THE ACTION OF STRYCHNINE ON THE SENSORY NERVES.

BY B. F. LAUTENBACH, M.D.

ALL the experiments alluded to in the following paper were made in February and March, 1879. Since then I have, for the purpose of convincing my professional friends, occasionally repeated the experiments with success. Frogs of the R. temporariæ var. and the R. esculentæ var. were the only animals employed. In all the animals the brain was destroyed before the experiment was commenced.

RESULTS OF THE FIRST SERIES OF EXPERIMENTS.

The circulation is cut off by a ligature at the thigh of one posterior leg.

Curarization. Movements cease in all the legs but the ligatured one.

A strong solution of strychnine is injected into the lymph-sac of the back.

Tetanus in the ligatured leg; the rest are quiet.

Touching any part of the skin produces tetanus.

Acids, the reducing-flame, and extreme pressure fail to produce tetanus from the non-ligatured parts of the animal.

Acids, the reducing-flame, pressure, as well as touch, produce tetanus from the ligatured leg.

RESULTS OF THE SECOND SERIES OF EXPERIMENTS.

The circulation is cut off in one posterior leg at the thigh.

Strychnine by the back. Early in the poisoning tetanus results from all parts of the skin by touching, pinching, burning; from acids and from electricity.

Later in the poisoning all the agents still produce tetanus when applied to the skin of the ligatured leg. Only touch has this effect from the rest of the body. Succussions, however, always produce tetanus.

Later still in the poisoning touch only will produce tetanus from the ligatured leg.

RESULTS OF THE THIRD SERIES OF EXPERIMENTS.

Strychnized a number of frogs, having previously exposed the various mucous membranes.

Touching these membranes produces reflexes without producing tetanus. Sometimes the reflex produces leg-succussion and tetanus.

Pinching, burning, acids, and electricity, all can produce reflexes in the strychnized frog, but they never produce tetanus.

RESULTS OF THE FOURTH SERIES OF EXPERIMENTS.

A posterior leg of a frog is so tied as to prevent any blood from entering or leaving it. A solution of strychnine is then injected under the skin of the tied leg. After some time the tactile sensibility is found to be increased, while the sensibility to pressure, to heat, to acids, and to electricity is abolished. Motility is at this time unaffected in the ligatured leg.

Later on, both the sensibility to touch and the motility disappear in the tied leg.

CONCLUSIONS.

Two very important conclusions can be drawn from the above:

1. *That the sensibility to touch is conveyed to centres by other channels than the other forms of sensibility.*
2. *That a physiological difference exists between motor and sensory nerves.*

In the fourth series of experiments the animal *moved the poisoned limb, which was without sensibility, just as well as it did the non-poisoned legs.*

TRANSLATIONS.

COLD TUBERCULOUS ABSCESSES OF THE CELLULAR TISSUE.—At a recent meeting of the Société de Chirurgie (*Le Reveil Méd.*, vol. i., 1880, p. 48) M. Lannelongue read a communication upon the subject of "Cold Tuberculous Abscesses of the Cellular Tissue," purulent collections having all the characters of cold abscesses, the origin of which should be referred to a tuberculous product of the cellular tissue. The abscess, in fact, is only a secondary circumstance in the local evolution of the primitive tuberculous deposit; the tubercle is the primitive, the essential lesion. Many authors have described this variety of abscess under very different names. Thus, M. Vidal, at the Hôpital Saint-Louis, has called them scrofulous gummata; Bazin, molluscum tuberculosum; Hunter, circumscribed tumors. The merit of having demonstrated the tuberculous nature of scrofulous gummata belongs to MM. Brissaud and Josias, who have published a conscientious study in the *Revue Mensuelle de Méde-*

cine et de Chirurgie (November and December, 1879), and who have established the primitive seat of the tuberculous deposit, not in the skin, but beneath it.

The observations of M. Lannelongue confirm and explain the propositions of MM. Josias and Brissaud. Besides the tuberculous abscesses which are developed in the neighborhood of the skin, and which owe the appellation "scrofulous gummata" to their peculiar physiognomy, there are recognized in localities some distance from the skin purulent collections which have no resemblance to gummata or to cutaneous affections, but which, by their development and their exterior character, should be considered as veritable cold abscesses. These collections appear frequently in the course of chronic affections of the bones; they are not, however, symptomatic of these diseases, since they are seated at some distance, entirely independent of the osseous lesions; they are found on the forearm or the arm, while the lesion occupies a phalanx or a metacarpal bone; it may even happen that, the upper or lower limb being affected, the abscess may be developed upon another healthy member or on the trunk; but, on the other hand, they may be observed entirely apart from any osseous lesion. Hence the necessity of distinguishing, as M. Lannelongue has done, between tuberculous abscesses appearing in the course of chronic osseous affections and simple tuberculous abscesses.

The pathological anatomy of these abscesses can easily be ascertained in the living. Making use of an Esmarch's bandage when the lesion is situated on one of the limbs, M. Lannelongue proceeds to make a regular dissection of the sac, examining into its peculiarities. The abscess is limited by a pyogenic membrane becoming organized originally around the tubercular deposit.

M. Lannelongue generally treats cold tuberculous abscesses by means of a large incision, followed by irrigation with five per cent. carbolic acid solution, and maintains the wound in an open condition by means of a large drainage-tube. This method he applies to "abscesses by congestion,"—that is to say, to those which are symptomatic of osseous lesion. The after-results of this intervention are in general without complication. If the osseous affection is cured or in the way of being cured, the sac becomes reduced to a sinus, which closes promptly; in the contrary case there remains a fistula, the duration of which is that of the bony disease itself. The reading of M. Lannelongue's paper was followed by a very animated discussion, in which a number of distinguished surgeons took part.

SUPPOSITORIES OF ERGOTIN.—At a recent meeting of the Société de Thérapeutique (*Bull. Gén. de Thérap.*, vol. ii., 1880, p. 43) M. Dujardin Beaumetz stated that, following the example of a Belgian physician, he had attempted the employment of ergotin in suppositories to combat the metrorrhagia of uterine fibromata. These suppositories contained fifty centigrammes (eight grains) of ergotin,—that is to say, about five times the amount used in hypodermic injection. He had obtained excellent results in two cases, which had been cured in the first after two applications, in the second after three applications.

In the discussion following, M. Ferrand said he also had employed these suppositories in studying the influence of ergotin on hemorrhoids. One patient, among others, had been relieved of a persistent hemorrhoidal flux after the employment of eight or ten suppositories containing twenty-five centigrammes of extract of ergot. This patient had had no return of the flux after more than a month.

M. Vidal said he also had used these suppositories in the treatment of rectal prolapse. He was accustomed to use suppositories containing fifty centigrammes to a gramme of ergotin. The effect obtained had not been as satisfactory as in using hypodermic injections; besides which, the patients complained of a very painful burning sensation in the neighborhood of the anus.

M. Ferrand said the dose was not without importance, because of the great difference of sensibility which exists between the mucous membrane of the stomach and that of the rectum: thus, saline enemata which caused energetic and painful contractions of the intestines produced no such effect when introduced into the stomach. In the patient suffering with hemorrhoids, whose case he had reported last year, he had employed hypodermic injections of ergotin after having been obliged to give up suppositories of tannin, which had been badly borne.

M. Montard Martin believed that there

existed an undoubted difference between the stomach and the rectum with regard to their relative sensibility; besides, the intestinal mucous membrane absorbs more easily, rendering it necessary to use smaller doses than by the mouth. The example chosen by M. Ferrand was ill chosen, because the saline solution employed as an emetic also excites the gastric mucous membrane greatly; but chloral, so well supported by the stomach, often causes severe pain when given in enemata.

M. Dujardin Beaumetz thought that suppositories of ergotin were to be recommended as useful in uterine fibroid. They did not present the same danger as the parenchymatous injection of ergotin in solution into the uterus, which is sometimes followed by fatal peritonitis. The formula for the suppositories might be fixed, for example, as ergotin fifty centigrammes, ol. theobromæ five grammes.

M. Ferrand thought that if these suppositories gave pain they might be reduced in strength and repeated more frequently.

M. Blondeau had employed similar suppositories in a case of retention of urine, and had obtained good results.

Restoration of the Hand after Complete Separation from the Arm.—Dr. L. L. Stanton, of Tarborough, North Carolina, reports the following remarkable case. A girl of eleven severed her hand from the arm with an axe, the cut passing from the styloid process diagonally across the trapezium, passing through the scaphoid bone and posterior annular ligament, dividing all the muscles, bones, and blood-vessels, and completely separating the hand from the arm, except a small portion of skin, below the articulation with the ulna; the hand was hanging at right angles with the arm when seen by the doctor, half an hour after the accident. He proceeded carefully to replace the hand, which was held securely in position with silver-wire sutures and adhesive plaster. The hand and arm were secured upon a broad splint, and kept warm by being wrapped in hot flannel cloths. Twelve hours afterwards the hand was very much swollen; no sensation or pulsation could be detected, nor had she complained of any pain, but rested quietly during the night. By the third day pulsation could plainly be felt in the hand; it had changed color, and looked as if it could be saved. From that time the patient did not have a bad symptom, nor was there any suppuration or secretion of any kind; the wound healed entirely by first intention. The sutures were removed upon the fourteenth day, and afterwards she carried the hand in a sling, and when the case was reported (three months after the accident) was able to extend the fingers and grasp with nearly the usual strength. There was no anchylosis of the wrist-joint, as was expected.—*North Carolina Medical Journal;* from *St. Louis Courier of Medicine*, June, 1880.

Treatment of Cancer of the Uterus by Cauterization with Chloride of Zinc.—Dr. Lejeune (*Thèse de Paris*, analyzed in *Bull. Gén. de Thérap.*, vol. ii., 1880, p. 45), having observed in the service of M. Alphonse Guérin the good effects obtained by the use of chloride of zinc in the treatment of cancer of the uterus, gives the following directions for its employment:

The cervix being brought into the field of the speculum, a small cone of Canquoin's paste, of sufficient length to reach to the cervical orifice, is introduced into the cavity of the neck, if it is feared that the disease is about to extend up into the interior. The cone being held in by a plug, a bit of charpie is placed in the posterior cul-de-sac, to protect the vaginal mucous membrane in case of leakage. Then the vaginal cavity is filled with another tampon of cotton or charpie sufficiently large to keep the cone of Canquoin's paste in place. The patient is then placed in bed. This last procedure is indispensable, to prevent the displacement of the cone, which is extremely apt to take place from the movements of walking. It is even better to confine the patient to bed for some days after the removal of the paste.

M. Lejeune's conclusions are as follows: 1. Cancer limited to the cervix uteri may be advantageously treated by means of the paste of chloride of zinc. 2. The destruction of the disease is as complete as is obtained by amputation of the cervix, and the dangers of this procedure are entirely avoided. 3. The cones may be buried deeply in the remote parts of the cervix, avoiding healthy parts, and coming into contact only with those which are diseased, and which it might be dangerous to attack by any other means. 4. When the disease is so far advanced that it is hopeless to attempt to remove it, the use of chloride of zinc is advantageous in reducing fungosities and in combating hemorrhages. 5. This treatment is well supported by patients, it is easy of application, and may be taken to any part of the world.

CHLORATE OF POTASSIUM IN EPITHELIOMA—SULPHUR IN CHRONIC SCIATICA—THE ACTIVE PRINCIPLES OF TOBACCO—DIPHTHERITIC PARALYSIS.—At a recent meeting of the Société de Médecine Pratique (*La France Méd.*, 1880, p. 452) M. Dehenne read a paper on "The Treatment of Superficial Epithelioma of the Face by Chlorate of Potassium," in which he described that form of the disease which is chronic, slow, without ganglionic engorgement, superficial, and ulcerated, as the form in which this treatment is beneficial. He uses topically a ten-per-cent. solution.

M. Duchesne's method in sciatica, detailed to the Society, is simply covering the inside of the stockings with powdered sulphur. He is quite successful with this method, which is worthy of trial.

A letter from M. Le Bon announces that after long research he has obtained from tobacco-smoke (1) a notable quantity of prussic acid; (2) a new alkaloid of very agreeable odor, but as poisonous as nicotine. The fiftieth part of a drop is sufficient to cause paralysis and death.

M. Carré read a number of cases of paralysis following diphtheria, among others a curious case where, complicated fracture having occurred, amputation of the analgesic arm was performed without pain.

RADICAL CURE OF HYDROCELE.—Dr. Bernard Bartow (*Buffalo Med. and Surg. Jour.*, July, 1880) describes the following operation for the so-called "radical" cure of hydrocele, which he has employed in two instances with such satisfactory results as to lead him to believe there are some points of value in the method, and particularly in its application to cases which have resisted the means ordinarily employed for the relief of this disease. The operation consists of an incision from three to four inches in length in the scrotum, in the centre of the hydrocele tumor, extending through the scrotal subcutaneous tissues until the sac is exposed. The loose connective tissue is then separated from the sac to the extent of about an inch either side of the line of the incision, exposing about one-third the circumference of the tumor; the distended sac protruding into the wound renders this last step very easy of accomplishment. Into the most depending part of the tumor thus exposed a fine trocar and canula is introduced, and the fluid is drawn off, the entire wound being left to close by granulation. It is intended that air shall not be admitted into the sac, and it is preferable to make the incision with antiseptic precautions, and to continue them during its subsequent treatment.

THE DIABETOMETER.—A method for the accurate and easy estimation of the quantity of sugar contained in a given specimen of diabetic urine is very desirable. M. Yvon, in the *Bulletin Général de Thérapeutique* for July 16, figures and describes an instrument which seems to fulfil all the indications, and if accurate should prove a boon to the practical physician and should certainly find a place in all large hospitals. It consists essentially of a glass tube, intended to hold the urine to be used, and which is supported horizontally on a stand. In the end of this nearest the source of light are placed, first, a reservoir for bicarbonate of potassium, then a polarizer. At the other end of the glass tube is a Nichols prism, and then a pair of lenses to focus its ray of light on the eye. The Nichols prism is made to rotate by means of a milled head graduated so as to express the richness of sugar in grammes to the litre of urine.

ACTION OF QUININE, DIGITALINE, AND ATROPINE COMBINED.—Dr. Guido Cavazzani, in an article on this subject, of which an abstract is given in *La France Médicale* of June 26, concludes as follows:

1. Atropine and digitaline are antagonistic: the first tonifies the terminal vessels and paralyzes the heart, the latter produces the opposite effect.

2. These two medicines when associated cause considerable slowing of the ventricular contractions of the heart, with a much less marked decrease of the auricular contractions.

3. Quinine and digitaline associated decrease reciprocally their force of action.

4. Quinine and atropine neutralize each other as to their action upon the heart.

5. These three medicines given alone may bring on a condition of collapse, which in the case of quinine is due to ischæmia of the heart, in digitaline to its tetanization, and in atropine to asthenia.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 11, 1880.

EDITORIAL.

THE NORTH WOODS.

HOME from the North Woods,—from 50° to 100° Fahr. in forty-eight hours; assistant in charge of the *Times* driven out of town by sickness due to the heat; current number of the journal wofully behindhand in its preparation; printer's devil gasping out, after his Tannerian fast, "Copy, copy!" With what shall he be filled? Perhaps in this strait some few fresh notes from recent experience may be neither uninteresting nor uninstructive to our readers, and serve to still the stomach of the unfortunate devil.

The fifth editorial trip to the wilderness has strengthened the previously strong conviction that the woods afford to the overworked city man the most thorough and complete rest that can be found, provided always that there is some inborn sympathy between the man and nature in its original purity and freshness. The alteration of habits, of scene, of all that makes up life, is as profound as possible. From the reeking hot-beds of civilization to the calm, cool barbarism of the wilderness is the extreme of change. Then, again, the fact that the world is so far behind causes it to fade from the mental vision, and to be forgotten. When communication is not possible, care is apt to cease. Few dream of the tempest that may be raging five hundred miles away unheard.

The woods, too, are most flexible in their nature, capable of adapting themselves to the varied types of humanity. The active temperament finds in them a soul as busy as the day is long,—multitudinous activities that fill every moment of time. So soon as the cold spring-water has washed away the traces of the night, breakfast claims attention; then fishing-tackle, rifles, lunch, and multitudinous preparations for the day's hunt or travel; then the effort intensified by the fact that the quality of the late dinner or supper depends upon the success; then wood to be cut, supper to be made ready, camp-fires to build, and, as the flickering shadows deepen with the night, results achieved and plans for the future to be discussed. To the lotos-eater the soul of the woods is a perennial calm. The hammock swings in the cool shade; the woods offer soft couches of moss and leaves; the silence woos to rest, and the dreamer dreams on, whilst guides prepare all that nature needs.

It is not, however, of the pleasures of the woods that we wish to write. He who has in his heart nothing of the vagabond, who has not envied on the summer day the tramp lolling in the country lane, will never fully comprehend the compensation for working eleven months upon the tread-mill that is to be found in one month of life so free, so joyful, so full of satisfaction, as is that of the wanderer in the North Woods. But to those in whose veins the blood of old Norsemen or semi-savage Saxon still tingles a few facts are offered.

Probably there are few professional men in North American cities who do not yearly feel as a privation of the summer the prolonged separation from their families during the hot months, and who do not have some tendency to share the exile of the unfortunate mother and children during the summer vacation. To those whose souls have wearied with the utter dreariness of Atlantic City, of a country farm-house, or any other of the ordinary summer prisons which men do scatter to or congregate in, we want to say that we have tested taking the whole family to the North Woods, and found it to work most admirably. The power of the child to resist hardships is certainly less than that of the adult, but in properly-regulated camping out there are no exposures worthy of being called hardships, and the minor ills are less apt to afflict the child than the adult. A bed of boughs is better than the beds in some watering-places, but many adults find it rather hard, whilst the child seems never to notice that it is different from what it has been accustomed to. From the cold by a sufficiency of bed-clothing and *flannel* body-clothing the child must be shielded during the night, and it will sleep most peacefully. During the day it will find an abundance of amusement, whilst all the time it is bathed in the good influences of air and sound hygienic surroundings.

The food question for the adult in the wilderness is a serious one, but for the child it is vital. No child under three or four years old should be taken into the woods. We have seen very serious consequences from this, for reasons most obvious. Milk and its derivatives are of civilization, and those things which are fit for the very young stomach grow not in the Adirondacks or the far north Canadas. Even for the older child, however, much salt food is not suitable; and no one should take a family where game is not abundant. Given sunny weather, venison and trout, good bread, butter, potatoes, buckwheat-cakes—or even well-made "slapjacks"—and maple syrup, and the child will grow and strengthen in the woods, even as did Antæus of old when his mother Earth nursed him in her lap.

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LEADING ARTICLES.

THE MEDICAL COLLEGE OF JAPAN.

IN 1878 the medical college at Tokio was transferred from the home department to the educational department, and thus became a part of the national organization for culture and training. It is now located in the new buildings in Kaga Yashiki, having well-arranged lecture-rooms, laboratories, an operating amphitheatre, a commodious and modern-modelled hospital, and rooms and space for an extensive out-patient department for clinical purposes. In a very large building, formerly occupied by the daimio's retainers, are rooms for lectures and recitations of the large preparatory and Japanese medical classes.

The "I-Gaku-Bu," or medical school, is divided into two departments: (1) preparatory; (2) special or advanced course. To complete the full course five years are required in each department. The language of the school and hospital is German. As a knowledge of the Western sciences is essential to the proper understanding of the principles of modern medicine, as there are no fitting schools throughout the empire, and as the need of educated medical men is most urgent, the preparatory department has been established. Students from fourteen to twenty years of age who have taken a full course in Japanese and Chinese in the district schools are eligible. They are instructed in arithmetic, algebra, and geometry; in zoölogy, botany, and Latin, the latter branch giving the students more trouble than either of the other studies. They commence German, and study it through the entire medical course. Each year written examinations are held. Each student is required to attain a certain standard in all branches before he can be advanced.

To enter upon the special course each candidate must have passed in the preparatory school or must take the written entrance examination. In this department all instruction is in the German language. It covers a period of five years. The course is gradual, methodical, and not unlike that pursued at Harvard. A certain standard must be attained in order to enter the next class. Class examinations are held annually. At the final and state examination in order to take the degree of I-Gaku-Shi (conferred first in 1879), the candidate must satisfy the faculty and the government commission of proficiency in *all* branches studied during his course. Instruction is imparted by lectures, text-book recitations, clinical lectures, and clinical work in the hospital and out-patient department. Owing to the present difficulty of obtaining material and the infrequency of autopsies, only the advanced students pursue practical anatomy; the majority are instructed from diagrams, charts, and models of *papier-maché* and plaster. (At the laboratory have been made nearly fifty fac-similes of French manikins, which have been distributed to all the hospital schools, for each hospital has its classes, in all parts of the empire.) There is no course in surgery or obstetrics on the cadaver. At present, on account of the large number of students and the limited facilities, but little practical work is done in chemistry, physics, physiology, or pharmacy. According to the last annual report, there were in the college hospital three hundred and eighty-eight male and ninety-two female patients, and upwards of four thousand five hundred came to the out-door patient department. To all advanced students cases were assigned in the wards to be followed through their entire treatment. Each student is required to present a complete history of the progress, treatment, and result of his case, which is submitted to and criticised by the clinical professor. At the same time nearly five hundred out-door patients were placed in charge of the students, under the supervision of the doctor on duty. The practice of obstetrics in this country is exclusively in the hands of midwives, called *samba-san*. All women who now adopt this calling are required by the government to be upwards of eighteen years of age, to have an elementary knowledge of pelvic anatomy, physiology, and of normal labor, and to have had a certain amount of practical work under a licensed midwife. A school for such instruction has been established in Tokio, and at most of the national hospitals.

The medical library has upwards of nine thousand volumes in the German language. (This includes most of the text-books used by the students. Each student is permitted to have out five books at once during term-time.) The fine collection of French, English, and Dutch books has been ordered to be sold. Translations of hand-books on practice, on therapeutics, on the eye and ear, on the throat, on venereal diseases, and on surgery, have been made into the Japanese-Chinese characters used by the educated classes by the native instructors, and are being widely disseminated. Upwards of fourteen thousand copies of the Japanese edition of the lecture-notes of the professor of therapeutics have already been sold. Hartshorne's "Essentials" and Wyeth's "Medical Reference-Book," in the character-writing, are having an extensive circulation. Recently the botanical garden of foreign, domestic, and medicinal plants established by the Shogunate more than one hundred years since has been removed to Kaga Yashiki, and is in charge of the professor of materia medica. In his department no text-book is used, the instructions being by lectures and daily demonstrations. The great object sought in this medical school is simplicity of word-instruction, supplemented by repeated demonstrations of the varied applications of instruments, movements, and apparatus, and the preparation and uses for the different drugs.

As stated in a former letter, there has been added to the medical school a department in which all instruction is in Japanese and all the instructors gentlemen who have studied Western medicine. The course of study is four years, of which two years are devoted exclusively to therapeutics and clinical work. Persons upwards of twenty years of age and possessing a sound Japanese and Chinese education can enter the school. The examinations are annual, and two consecutive failures are followed by expulsion. Graduates are given a government permit to practise medicine in any part of the empire and relieving them from future ken (provincial) examinations.

According to the last report of the I-Gaku-Bu, there were 11 German instructors and 33 natives. Of students in the special or advanced course there are 39 public cadets (all expenses being paid by the government, as in the naval and military school), 59 *shikuse* (students who are in the future to refund the government the funds advanced for their education), and 36 private students; in the preparatory department, 161; in the Japanese, 656; and in the therapeutic class (made up of practitioners of the "Chinese school" who desire to learn of Western methods and drugs), 82,—a total of 1033. The tuition is free, except in the two latter-mentioned departments, of which the fee is one dollar per month. Board, rooms, charcoal, and necessary expenses in the student-quarter amount to less than seven dollars per month. The school is in session about nine months. Regular attendance and continued advancement are demanded of all in the school.

The first class in the special course

graduated in 1878, but the graduates did not receive their degrees until 1879. The class numbered twenty; of these, two were retained at the college; four were sent to Germany for advanced study at government expense; a few entered the army medical service; and the remainder were sent to hospitals in various parts of Daï Nippon. In 1879, I suppose about the same number graduated, there being twenty-five in the second class of 1878. The army is prepared to take ten graduates per year, and the navy as many more, when the home department sees fit to relieve them from its service. Their salaries are from 100 to 175 yen per month, according to the position to which they are assigned. The ordinary army surgeon receives fifty yen per month; the assistant, thirty yen. In the civil service not only is the salary more, but the status of the medical staff is far better.

J. C. CUTTER, M.D. Harv.,
Physician to Kaitakushi.

LAPPORO, JAPAN, June 21, 1880.

CORRESPONDENCE.

LONDON LETTER.

THE great event in medicine of the past month has been the Forty-Eighth Annual Meeting of the British Medical Association at Cambridge. It met there in 1866; so this is its second visit to the Eastern university town. Cambridge looked lovely in the brilliant sunshine, the heat being tempered by a breeze from the northeast; so that it was not oppressively hot, as it otherwise would have been. Of course, too, it was also an attractive place, and consequently there was a very large gathering. The in-coming president, Professor G. M. Humphrey, delivered an address at the first general meeting, in which he traced the history of medicine in the University of Cambridge, and pointed to its present flourishing condition. A noble block of buildings, which furnished space, if not quite ample space, for the large attendance on the different section-meetings, and for experiments, etc., testified to the vitality of medicine there, proving quite a contrast with its position in the sister university of Oxford. It is a well-known fact that, under Professor Michael Foster, physiological research is flourishing famously at Cambridge, and he is well supported by Professor Humphrey; so that there is quite a band of workers established there. Thus, we can boast of one good physiological school in our universities. The meeting was amused by a prominent medical member of the teetotal party moving that in the future the dinner-tickets should not include wine; but, as the motion did not affect the present dinner, the matter was referred to the council. It is a little matter, but it shows that this active party misses no opportunity of pushing its views before the public.

Next morning the address on Medicine was delivered by Dr. J. J. Bradbury Linacre, Lecturer on Physic at Cambridge, on "Modern Scientific Medicine," in which he ably reviewed what was now being done with instruments of precision. It was an able *résumé*, very creditable to the speaker, who is a comparatively young man of promise. The next thing was the conferring of the honorary degree of LL.D. upon a number of distinguished persons. This ceremony is one in which the undergraduates feel themselves bound to take much interest and to express their opinions with much freedom. Though it is the "long vacation," a large number of men remained "up" working at their different subjects; consequently there was a large crowd of them in the Senate-House on this occasion. The gentlemen selected for the honor were Brown-Séquard; Donders, of Utrecht; Gross, of Philadelphia; Sir W. Jenner; Sir William Gull; Sir George Burrows; W. Bowman, the ophthalmic surgeon; the Rev. Samuel Houghton ("the cleverest man in Ireland"); the ex-President, Dr. O'Connor, of Cork; Lister, of antiseptic fame; John Simon, C.B.; and Andrew Wood, of Edinburgh.

All went well and smooth enough, with the usual amount of jest and comment, except when Sir William Gull's turn came; then there was a "proper shine." How the undergraduates became acquainted with the said baronet's recent conduct it is impossible to say, but their condemnation was certainly emphatic. Sir William Gull has taken upon himself to act very strangely at times, and not only to ignore the opinions of other members of the profession, but even openly to flout them. When the ex-Emperor Napoleon died at Chiselhurst, Sir William Gull chose to dissent from the views of the other eminent medical men present, and expressed an individual opinion of his own about the cause of death, though he would never give to the world any exposition of it, even when challenged to do so by the late emperor's Parisian medical attendants. Then in the notorious "Bravo" poisoning case his conduct towards Professor George Johnson, of King's College, was such that it was brought before the College of Physicians, and, whatever happened in their committee, his conduct was unquestionably condemned by the profession generally. Then in this recent row at Guy's Hospital he has figured very badly. A nurse under the new régime was recently tried for the manslaughter of a patient and condemned to three months' imprisonment. This patient, according to Dr. Pavy, whose work on Food is so well known, suffered from pulmonary phthisis, and he gave evidence accordingly.

This patient, unfortunately, soiled her bed, and for this she was punished, as well as cleaned, by being put into a bath with much harshness by the nurse, without medical authority, and left there for a considerable time. After this the patient got rapidly worse, and died. The verdict and the sentence testify to the opinion of the jury as to the treatment she received. When the nurse was tried, who should voluntarily appear for the defence but the well-known baronet, who is the Senior Consulting Physician to Guy's Hospital, on which pretext in the witness-box he chose to air his views on the subject of tubercular disease of the brain, of which, in his opinion, the woman died, the bath exercising no influence over the necessarily fatal result. This last outrage brought down on him swift punishment. Howls, shrieks of derision, shouts of "Pavy!" met him in one continuous roar, till the place was a perfect Pandemonium. Of course, the students were set on by the members of the profession, and the few and feeble protests of those who dissented from the general opinion were lost in the din of the majority. So long and so vigorous was the condemnation of the baronet that the scene became very trying to the spectators, whatever may have been the subjective sensations of the object of their indignation. Such a reception has never been given to any one else in the memory of man, and will never be forgotten by any one present. It is to be hoped that the conduct which provoked it will not be repeated. Even a fashionable medical baronet cannot do just entirely as he likes without being brought before the tribunal of medical and public opinion sooner or later. This was the only unpleasant event which marred the harmony of the meeting, which, on the whole, was a great success.

Then came the inspection of the museum and the exhibited objects,—instruments, new preparations, inventions of various kinds, and last, and not least in that hot August weather, an unlimited supply of that delightful non-alcoholic drink, zœdone. The spirited proprietors of this beverage took this opportunity of advertising their product, and, the weather proving a valuable ally, their success was complete as regards inducing the different members to taste and retaste the sparkling drink.

At two in the afternoon the different sections set to work in good earnest. It would be impossible to give any account of the different papers read. One of the most interesting communications made was the combined work of Professor Ferrier and Professor Gerald Yeo, of King's College, on "Surgical Injuries to the Brain treated Antiseptically." Their results are most valuable. Under this plan of treatment the injuries inflicted—*i.e.*, excisions of various portions of the cortical portion of the brain—healed up most kindly. The animals were then carefully observed for months after. When the time came to examine the brains the wounds were found to have healed with the most gratifying freedom from any inflammatory extension of the injury, the photographs showing the sharpest outlines of the original injury; consequently the precise results of the lesions could be gauged without complications from subsequent inflammation obscuring them. The results attained, I understand, will do much to clear away difficulties which exist at present, and to harmonize the conflicting views of different observers. Then there was a discussion on hysterical anæsthesia, on which there were some considerable differences of opinion expressed, as might be expected. There was also a discussion on the effects of alcohol in the causation of insanity, inherited and other. Then there was a discussion on the seat of the formation of urea in the body. In the surgical section the treatment of wounds was discussed, Professor Lister being to the front.

On the Thursday Professor Preyer, of Jena, commenced a discussion on "Sleep and Hypnotism," which was certainly interesting. A section on Ophthalmology and a sub-section on Otology did good work. Dr. Swanzy had some Holmghren's skeins of different-colored wools, and a very large number of men had their vision tested for color-blindness. Having distinguished or failed to distinguish the various colors and shades of color, and then being told that was enough, a number growled at nothing more being done. They failed to see that the object of Dr. Swanzy was merely to ascertain the fact of what proportion of educated men, who were not merely "color-stupid," were actually "color-blind" when tested by these skeins.

Friday was opened by an address delivered in the physiological section by Professor M. Foster. It was listened to with rapt attention. The practical line he took was similar to that taken by Henry Power at the Cork meeting last year, viz., that a knowledge of physiology is of the highest practical value to a medical man in his every-day walk in life. His anatomical knowledge is useful to him frequently, but physiological knowledge will stand him in good stead several times in every working day of his life. It is only reiterated expressions of individual opinion which can reach public opinion, and the profession are slow to take up these, to most of them, novel views, entailing their forsaking a lot they think they know, and taking up a new study the difficulties of which at the outset they keenly appreciate, but whose practical, ultimate value does not loom up very distinctly in the distance to their vision. Yet, the longer one lives, the more the number of cases troublesome to manage from impaired assimilation that come before one's notice, the more one sees of intercurrent disturbances of digestion in the course of disease, acute or chronic, and the more one feels the need for advanced physiological information. The appreciation of Professor Foster's address demonstrates that a large proportion of the profession are waking up to the importance of the subject, and in time a great change will be wrought.

Then there were, of course, the different meetings of the various committees, which, if not of general interest, certainly are a godsend to a number of enthusiasts and busybodies, who blow off steam, and so relieve themselves on their pet hobbies, annually, even if their work does not produce that far-reaching influence they aspire to create.

Finally, there were the entertainments of various kinds. As the colleges were largely empty, they put a number of their spare rooms at the disposal of their authorities, and a number of us had an experience of the life of an undergraduate. We breakfasted "in hall" in the college dining-room; then we dined "in hall" and had dessert and wine in "the combination-room;" after which one conspicuous member of the profession committed the enormity of lighting up a cigar and marching over the grassy plot of the quadrangle, innocent of his offence, and setting a bad example to all the undergraduates, for which he was properly censured after being allowed to commit the offence. We learned to comprehend practically the phrase of "sporting one's oak,"—that is, locking the stout oaken door which protects the industrious student from invasion when he wants to be undisturbed. We became familiar with that proper dame "the bed-maker," and that useful attendant locally known as a "gyp," and with "the buttery," whence eatables and drinkables are furnished. There is a venerable sense of respect for the past—a social conservatism — quite pleasant in these old buildings. The old man who presided over the buttery of Corpus College had been born within its precincts, and, man and boy, been there one-and-sixty years, and was distinctly in good preservation. The cloacal arrangements were distinctly mediæval, and among the students of old disturbances of the bowels, so common amidst the degenerate persons of the present generation, must have been unfrequent or even unknown. The fine weather made these arrangements less irksome than they would otherwise have been had we had wet nights.

The general entertainments were splendid, and were the source of favorable comment from everybody. On Wednesday evening the soirée of the President and the Reception Committee was held in the grounds of the Fitzwilliam Museum, and was largely attended. The museum itself was lighted up with the electric light, while the garden-walks were hung with Chinese and Japanese lanterns. On the Thursday was held the annual dinner, with the usual laudatory speeches after it. This year the room would hold only a certain number, and it seems to have been well served: so there was less than the usual amount of grumbling. On Friday afternoon a garden-party was held in the Fellows' garden of King's College. This garden is beautifully situated to the west of the Cam, which river runs through the grounds of several of the colleges. It was a beautiful retired spot, the very *beau-idéal* of a garden in which to hold a party. Some excellent music made it all the more attractive to most people, and all seemed to enjoy themselves thoroughly. Certainly, a garden-party is a capital institution, especially in the magnificent weather which favored the gathering. The whole concluded with a soirée in the grounds of St. John's College in the evening. This was the crowning feat of all. The moon shone brightly over a thick belt of trees; long walks were hung with every variety of paper lantern, of every shape and hue; the evening was balmy, while a pleasant breeze relieved all from any sense of oppression; amidst the strains of music were heard voices in the distance. Slowly came in sight along the Cam a barge hung with pennons and streamers, illumined with paper lanterns, and containing a number of songsters, who sang glees. The whole formed a scene of magic beauty, and will never be forgotten by those who were fortunate enough to be spectators thereof.

Such, then, was the finish of our round of entertainments, and next morning all were bustling about, either going on some of the excursions or hastening back to town to take their wives and families to the sea-side.

These annual meetings, so largely attended, are very useful for the spread of professional information, bringing a lot of men in the country in contact with the most recent information, and also for welding the profession together socially. Men from personal knowledge learn to have confidence in other men living far away; and the Association is beginning to have a collective voice, which must be listened to after a time by our legislators, and which will counteract those unfortunate impressions made by the misconduct of individuals, which has done so much to keep down the status of the profession and to forfeit that respect which, as a whole, it deserves. Individual laches will be lost in an aggregate of social respectability, and the Association will win for the profession a position more or less commensurate with its deserts.

J. Milner Fothergill.

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Compound Tincture of Benzoin in Compound Fractures.—Mr. Fergus M. Brown recommends this treatment in a recent number of the *Lancet.* After cleansing the wound and removing splinters, etc., he places compresses of lint saturated with the tincture over the opening, and finds healing take place without suppuration.

REVIEWS AND BOOK NOTICES.

A Treatise on Common Forms of Functional Nervous Diseases. By L. Putzel, M.D. New York, William Wood & Co., 1880.

The impression made upon us by this book is that it is one of a class written to the order of publishers for the purpose of filling out a medical list. By this we do not mean to disparage the work, as it is perfectly within the score of possibilities for a publisher to select wisely as to the author. Clear, concise, well written, and well up to the science of the day the work certainly is, even if it do not contain much that is novel or that offers a distinct *raison d'être.* Few persons, we think, could imagine its scope from its title: it treats solely of chorea, neuralgia, and peripheral palsies. The reasoning which excludes hysteria from functional nervous diseases, to give place to peripheral palsies from traumatisms, neuromatas, neuritis, etc., is one too subtle for the comprehension of a plain reviewer whose near approach to forty years of age entitles him to rank among the old fogies.

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GLEANINGS FROM EXCHANGES.

Cotton-Wool as a Vehicle for Medicating the Nasal Region.—Dr. Edward Woakes (*Lancet*, vol. i., 1880, p. 876) says that the numerous washes, lotions, vapors, etc., which have been recommended as a means of applying medicaments to the post-nasal region are so temporary in their action as to effect little more than a cleansing and disinfecting influence. Irrigation, however, in one or another of its forms, will always play an indispensable part in the treatment of nasal and post-nasal diseases, for until incrustations and decomposing accumulations of muco-pus have been removed through its agency, little result would follow from more permanent applications.

Attempts have been made to overcome the difficulty of topically medicating these regions by mixing the drugs selected for the purpose with a gelatin basis and introducing these in the form of conically-shaped bougies. Patients using them complain of the annoyance caused by their undergoing solution and trickling down the pharynx, producing cough and disturbance of rest. Nevertheless they have served a good purpose. The insufflation of powders or medicated snuffs is sometimes adopted, but practically all these measures are insufficient for the purposes in view.

About three years ago Dr. Woakes devised pellets of cotton-wool impregnated with iodoform and introduced through the anterior nares. This mode of introducing the drug proved so satisfactory that he has recently adopted the method of diffusing a number of other drugs through cotton-wool for use in the nasal and post-nasal regions. The method used is as follows. A quantity of wool, usually from two to three grains by weight, is twisted spindle-shape, but loosely, upon a piece of thread or silk; the thin ends are brought together and tied with a knot; thus the spindle-shaped pledget of wool is doubled upon itself and secured firmly to the thread, having now a pear shape, the stalk being represented by the thread. A blunt probe is engaged in the wool and made to conduct it along the floor of the nose to the spot where it is to be retained. The process is to be repeated on the other side, and the threads which hang out are tied together. If desired, several such pledgets can be introduced together and the threads tied to one another. Irrespective of the special virtue of the drug employed, this use of medicated cotton-wool has the advantages of absorbing discharges and also acting favorably by exerting pressure on the mucous membrane over the turbinated bones, when this is puffy, œdematous, and swollen. Besides the iodoform wool, Dr. Woakes gives the following formulæ:

Astringents.—*Perchloride of Iron Wool.*—Cotton-wool, ʒi; glycerin, ♏x; tinct. ferri chlor., f℥i.

Tannin Wool.—Cotton-wool, ʒi; glycerin, ♏x; tannin, ʒi; alcohol, fʒvi.

Alum Wool.—Cotton-wool, ʒi; glycerin, ♏x; alum, ʒss; water, f℥i.

Rhatany-Kino-Catechu Wool.—Cotton-wool, ʒi; glycerin, ♏x; tinct. catechu, vel kino, vel rhatany, f℥i.

Hamamelis Wool.—Cotton-wool, ʒi; glycerin, ♏x; tinct. hamamelis, f℥ss.

Anti-Catarrhal.—*Cubebs Wool.*—Cotton-wool, ʒi; glycerin, ♏x; tinct. cubebæ, f℥i.

Antiseptic, Disinfectant, and Stimulant.—*Camphor Wool.*—Cotton-wool, ʒi; glycerin, ♏x; tinct. camphoræ, f℥i.

Boric or Boracic Wool.—Cotton-wool, ʒi; glycerin, ♏x; boric acid, ʒi; alcoholis, fʒvi.

Iodine Wool.—Cotton-wool, ʒi; glycerin, ♏x; tinct. iodine, f℥ss.

Sedative.—*Opium Wool.*—Cotton-wool, ʒi; glycerin, ♏x; tinct. opii, f℥ss.

General Directions.—Mix the glycerin with the tincture or other solvent, saturate the wool with the liquid, and dry.

A Fœtus in Adipocere.—Of the many brilliant and rare operations that Billroth has performed this winter, one or two especially deserve more than passing notice. The first was the removal of the fruit of an extra-uterine pregnancy, which, as the result showed, had been converted into a perfect adipocere, while still retaining quite distinctly the outline of every part and feature. The woman—a multipara—had, two years before the operation, presented symptoms which induced the physicians in charge to diagnose an extra-uterine pregnancy,—a diagnosis confirmed by Professor Braun, of the obstetric department of the university. Not satisfied with either of these answers, she left Vienna, and was not again heard from until recently, when she presented herself at the surgical clinic and demanded to have the tumor removed, as the sense of weight, pain, and disturbances of digestion from which she suffered had made her life a burden; in addition, she had had repeated attacks of peritonitis. As she persisted in this demand, despite a most unfavorable prognosis, the operation was finally decided upon, and a confirmation of the previous diagnosis made two years before was the result. As is easily imagined, the adhesions of the sac containing the degenerated fœtus to surrounding viscera were very extensive, and quite a number of ligatures had to be applied; the hemorrhage was slight and quickly controlled, and the sac removed *in toto.* It was composed of dense fibrous tissue, doubtless the result of an inflammation, and upon its inner surface contained an abundance of cholesterin crystals, with a thin coating of the same yellowish, fatty material into which the fœtus had become converted. Of the fœtus itself the soft parts had all undergone this change, and many of the bones, particularly at their epiphyses, were similarly affected. The woman had no fever, and did very well after the operation. The fœtus, very well preserved, had, to judge from its size, evidently reached maturity before its death and subsequent degeneration; probably had it remained longer in the abdominal cavity it would have become infiltrated with calcareous salts and resulted in the formation of a perfect so-called stone child, or lithopædion. The rarity of such cases of extra-uterine pregnancy in and of themselves, the history of the subsequent operation, and the conditions there found, attach to this case quite a peculiar interest. The patient has been very well up to date.—*Corr. Cin. Lancet and Clinic;* from *Canada Medical and Surgical Journal.*

TREATMENT OF HEMORRHOIDS BY CRUSHING.—Mr. George Pollock (*Lancet*, vol. ii., 1880, p. 1) has long thought that the operation of treating hemorrhoids by ligature or by clamp and actual cautery is usually followed by much more pain than should necessarily be attendant on measures adopted to relieve successfully a patient suffering from piles. The ligature, however skilfully and carefully applied, destroys the life of the part by degrees only; the portion in its grip does not die instantaneously, and, consequently, must naturally be a source of more or less suffering till the death of the part is effected. Its application is very often followed by very great pain, never without some, and often accompanied by severe, spasm of the sphincter.

The more recently adopted method of treatment by clamp, scissors, and actual cautery, though perhaps somewhat less painful, is still sufficiently severe to occasion much subsequent suffering, and often for some days. A burnt wound must in most cases be attended with more heat, pain, and discomfort than a clean-cut surface; œdema, retention of urine, spasm of sphincter, bearing-down pain in the rectum, are all more or less the common accompaniment of both of these methods of treatment.

It must be said, however, that Mr. Curling, who has had perhaps a larger experience than any one, is in favor of the ligature. After a lengthened experience, he has had, with one exception, no fatal case from ligature. Ligature, Mr. Curling admits, is more tedious than the cautery, but is less alarming to the patient, and less likely to be followed by hemorrhage.

It has occurred to Mr. Pollock that if a pile could be rapidly and effectually destroyed at its base by some instrument the action of which would be analogous to that of crushing the part included in its bite, the vessels of the crushed portion would not be very liable to bleed when the surface of the pile was removed, and, the nerves being bruised by this proceeding, it would be less liable to be followed by pain.

Mr. Pollock's first attempts at this operation were attended at times by hemorrhage, but he has now devised an instrument which does away with the danger of this complication. In comparison with the other operations this is almost painless; pain has been felt in one or two cases for a few hours, but usually there is none.

The process of the application of the clamp (the instrument is figured in Mr. Pollock's paper) is as follows. The patient suffering from hemorrhoids, being prepared for the operation in the usual manner, is placed under the influence of ether. He is then turned on his left side; the right leg is well flexed, and fixed with a strap, which is carried under the knee and around the neck. The pile to be removed is drawn well down by a prolonged hook or forceps. The clamp is then to be applied to the base of the pile, and at once tightly and firmly closed by the action of a screw at the end of the handles. The portion of pile which protrudes *inside* the lips of the clamp is then to be removed by a pair of curved scissors. The clamp may afterwards be retained, still grasping the stump of the pile, for any time the operator may think desirable. Mr. Pollock's usual custom is to retain it from half a minute to a minute. If the pile be large and thick, it may be well to retain it for a rather longer period. This process is, of course, to be repeated according to the number of masses to be got rid of. If there is any bleeding at all, ligatures are to be applied; they do not at this time cause pain.

EXCISION OF THE THYROID.—M. Tillaux reports a case of successful excision of the thyroid for goitre believed to be of the "exophthalmic" form. The patient was a woman 29 years of age, and the thyroid was enlarged to the size of the fœtal head at full time. In the operation Lister's antiseptic method was strictly observed. An oblique incision was made from above downwards parallel to the anterior border of the sterno-mastoid, and then a horizontal incision perpendicular to the other. On reaching the thyroid M. Tillaux endeavored to separate the capsule, but found great difficulty in doing so, each movement of the grooved director causing a jet of blood. The capsule adhered so firmly to the thyroid that it was necessary to apply more than fifty hæmostatic forceps to restrain the hemorrhage. Relinquishing the attempt to attach the right lobe of the tumor, he made a second oblique incision parallel to the first on the left side, and obtained thus a flap, which he raised over the chin. There were no adhesions on this side, and the thyroid body was enucleated without difficulty. The bleeding points were secured. It was noticed that when the trachea was exposed, after the removal of the mass, there was great difficulty of breathing, but as soon as the flap was replaced and the trachea covered the dyspnœa at once ceased. A drainage-tube was placed on the lower extremity of the wound. For four days all went on well. On the fifth there was free hemorrhage from the left crico-thyroid artery, from which the suture had escaped, but it was arrested without difficulty. From the time of the operation the woman had not a single attack of suppuration; the other phenomena also disappeared, and the woman made a good recovery.—*Lancet*, vol. i., 1880, p. 1008.

SUBPHRENIC PYO-PNEUMOTHORAX AND ABSCESSES.—Under the name of subphrenic pyo-pneumothorax Dr. E. Leyden describes, in the *Zeitschr. f. Klin. Med.* (*Brit. Med. Jour.*, vol. i., 1880, p. 891), cavities full of air and pus formed beneath the diaphragm, and extending more or less into the thoracic cavity so as to produce physical signs very closely resembling those of genuine pyo-pneumothorax. These abscesses may be found either on the right or on the left side. The mechanism of the origin of these air-containing, suppurating cavities is closely connected with a history of perforative peritonitis; they are most frequently the result of perforating ulcers of the stomach or duodenum. Their tendency when left to themselves is, almost without exception, towards death. It appears that they most frequently perforate the lung; but they may discharge in other ways. Perforation of the stomach or of the transverse colon may end favorably. Dr. Leyden's observations have shown him that the diagnosis of subphrenic pyo-pneumothorax may generally be made with certainty, and the diagnosis is of great importance, as life may be saved by operation.

The following are, according to Leyden, the diagnostic characters of subphrenic pyo-pneumothorax:

1. The development of the disease is preceded by symptoms of general (perforative) peritonitis or discharges of pus by the bowel.

2. An exudation takes place in the lower part of the thorax (right or left), with symptoms of inflammation, cough and expectoration being absent,—at least, for a long time.

3. There are distinct symptoms of pyo-pneumothorax in the lower part of the chest, viz., complete resonance on percussion as far as the border of the ribs, and dulness in the lower and posterior part; in this region the respiratory murmur and vocal fremitus are absent, and metallic tinkling is heard on simultaneous auscultation and percussion; the succussion-sound is distinct.

4. At the same time, examination shows that the lung above is unaffected, and that it descends during deep inspiration. Beneath the clavicle there is vesicular respiratory murmur, and the vocal fremitus reaches as far down as the third or fourth rib. On deeper inspiration, however, the normal respiratory murmur is heard as low down as the fourth or fifth rib, while, at the same time, all respiratory sound is sharply cut off below this limit.

5. The dulness on percussion, corresponding to the exudation, is rapidly and distinctly altered by changes in the position of the body, but the change is limited to the lower part of the chest (*i.e.*, beneath the diaphragm).

6. The signs of increased pressure in the pleural cavity are either absent or very indistinct. The corresponding half of the thorax is scarcely distended; the heart is but little pushed aside. On the other hand, the liver reaches as low down as the umbilicus, or even lower.

7. In the further progress of the case, any doubt that may have existed as to the diagnosis may be removed by the sudden and abundant expectoration of ichorous pus, indicating perforation into the air-passages.

8. Finally, the diagnosis may be confirmed by manometric examination of the pleura. Pfuhl had already remarked that in puncture combined with the use of the manometer, when the canula is in a cavity beneath the diaphragm, inspiration is attended with an increase and expiration with a diminution of pressure, being the reverse of what occurs when the canula lies in the pleura.

THE CROTON OIL TREATMENT OF RING-WORM.—Dr. Alder Smith (*Brit. Med. Jour.*, vol. i., 1880, p. 885) strongly recommends the production of an artificial kerion by croton oil, *i.e.*, that swollen, raised, inflamed, and infiltrated state of the scalp which sometimes accidentally occurs during treatment, and which always results in a speedy cure of the disease. Kerion should be produced, if possible, in old, chronic, small patches of ringworm that have resisted all other treatment for many months, but not in those cases where the disease extends over a large surface.

The great aim of this treatment is to cause inflammatory swelling and effusion into the tissues around the follicles, so that the stumps, which otherwise would break off on attempted epilation, will now come out with the discharge or can easily be extracted; in fact, very often in a short time an inveterate patch of ringworm that has withstood every other treatment for years can be transformed into a smooth, slightly-raised place, utterly destitute of all hair and stumps, and practically well. Even if the swollen condition of kerion cannot be produced, this treatment very rarely fails in loosening the stumps and curing the disease.

Ringworm must never be considered cured—although the hair has grown again on the patches—as long as a single stump remains affected with the fungus or any black dots are seen. These black dots are the orifices of diseased follicles in which the stumps have been broken off on a level with the surface of the scalp by friction, or are the apertures filled with dirt left by the retraction of the broken and shortened stump into the follicle after attempted epilation.

It is most difficult to certify that any given case of ringworm is absolutely well. Time after time stumps that were not visible at one examination will crop up again, breaking off when any attempt is made to extract them, and reappearing again for months after the case in other respects seems cured. Nor must it be forgotten that stumps are not removed when they only break off, and that no reliance for diagnosis or prognosis can be placed on the microscopic examinations of short, ordinary hairs taken from a patch, but only of the stumps.

In conclusion, Dr. Smith warns medical men not to apply croton oil in ordinary cases of ringworm. The pustular eruption frightens parents, and causes them to imagine the doctor has made the disease worse. He always explains to parents beforehand the reasons for adopting this treatment and the results to be expected from it. It is important to bear in mind that simple remedies will generally suffice in children, and that stronger ones in such cases should never be employed.

ARREST OF HEMORRHAGE DURING AMPUTATION AT THE HIP-JOINT.—Dr. Rickman J. Goodlee writes to the *Lancet* of July 3, recommending an application of Esmarch's bandage to the arrest of hemorrhage in amputation at the hip-joint. The limb having been rendered bloodless by elevation, the rubber band is placed loosely in the perineum, after slipping it through two loops of bandage (one in front and one behind), which are drawn across to opposite sides of the body and held firmly above the iliac crest by an assistant. The two ends of the rubber band are then drawn rapidly and tightly outwards, are crossed below the iliac crest of the side on which the amputation is to be performed, and are then made to encircle the pelvis once, passing on the opposite side between the iliac crest and the great trochanter. The arrangement is shown in an accompanying sketch. This method has the advantage of compressing the vessels of the posterior flap as well as the commencement of the common femoral, and in the case of a boy operated upon by Dr. Goodlee it enabled him to perform the oval amputation quite bloodlessly and as slowly as was desired. As the band does not pass round the waist, no fear need be entertained of its interfering with respiration.

GLYCERIN IN FLATULENCE, ACIDITY, AND PYROSIS.—Drs. Ringer and Murrell (*Lancet*, vol. ii., 1880, p. 6) have largely employed glycerin, and find it very useful not only in acidity, but also in flatulence and pyrosis, and that it sometimes relieves pain. Cases are met with where flatulence, or acidity, or pyrosis is the only symptom; but more frequently these symptoms are combined. Some patients "rift up" huge quantities of wind without any other symptom than depression of spirits; in others we get flatulence and acidity, one or other predominating; and we meet with others who suffer from acidity, flatulence, and also pyrosis. In all these various forms glycerin is found useful, and in the great majority of cases very useful. It is not invariably useful, and sometimes fails where other remedies succeed; but Drs. Ringer and Murrell strongly recommend its trial. They hardly believe it would influence wind in the colon unless given in large doses. Glycerin does not prevent the digestive action of pepsin and hydrochloric acid: hence, while it prevents the formation of wind and acidity probably by checking fermentation, it in no way hinders digestion. Drs. Ringer and Murrell administer it in doses of a drachm to two drachms, either before, with, or immediately after food. It may be given in water, coffee, tea, or lemon and soda-water. In tea and coffee it may replace sugar,—a substance which greatly favors flatulence, as, indeed, does tea in many cases. In some cases a cure does not occur till the lapse of ten days or a fortnight.

SEBACEOUS CYSTS IN THE SOLE OF THE FOOT.—Dr. Cameron (*Lancet*, vol. i., 1880, p. 1019; from *Indian Med. Gaz.*) gives two cases, the first of a man who showed on the sole an intractable ulcer three-quarters of an inch in diameter, with a red, smooth, and healthy-looking margin, its base covered by a smooth, glistening, secreting surface. It was removed by avulsion, and the ulcer healed quickly. The history was of a small painless swelling in the sole, of its gradual enlargement, of its becoming painful, of its bursting, and, finally, of the formation of the ulcer. The second case complained of lameness, and showed a cyst the size of a marble in the sole. It was removed by avulsion, and proved to be an ordinary sebaceous cyst.

FRACTURED FEMUR RESULTING FROM MUSCULAR ACTION.—Dr. Clarence Foster (*Lancet*, vol. i., 1880, p. 994) was called to visit a middle-aged gentleman, whom he found, on his arrival, to be suffering from a simple transverse fracture of the left femur at its middle third. As is usual in this accident, there was considerable deformity, rendering the exact nature of the injury at once apparent. On inquiry, it was found that the patient had neither fallen nor in any other way experienced direct violence to the limb, but in walking across the floor he unfortunately made a slight trip, and in endeavoring to maintain his equilibrium the sudden muscular action thereby induced caused the bone to snap asunder. No reason existed for supposing any abnormal condition of the bone itself.

ARSENICAL POISONING THROUGH A GREEN DRESS.—The *Lancet* (vol. i., 1880, p. 815) gives, from a German source, a brief account of a young lady who, after wearing for some time a dark-green (silk ?) dress trimmed with light leaves, was attacked by an outbreak of pustules on her neck and arms, which was especially painful at night. After enduring this for a long period, the young lady consulted a physician, who recognized the effect of arsenical poisoning. The dress, on chemical examination, showed a large percentage of arsenic in its material.

CONSTIPATION.—Dr. William Robert Smith (*Lancet*, vol. i., 1880, p. 799) in an obstinate case ordered at first the following pill to be taken every night: Extract of nux vomica, quarter of a grain; ipecacuanha powder, half a grain; aloes and assafœtida, five grains. A week or two later this was changed to the following pill, to be taken three times a day: Sulphate of zinc, two grains; extract of nux vomica, half a grain; extract of anthemis, two and a half grains. After a time the dose of this was increased, and the result was highly satisfactory.

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MISCELLANY.

THE INTERNATIONAL MEDICAL CONGRESS OF 1881.—A meeting of the Committee of Organization was held at the Royal College of Physicians of London recently, when the date of the congress was definitely settled, viz., from August 3 to 9 inclusive. The meetings will be held in the rooms of the University of London. The following are the sections and office-bearers therein:

President of the Congress, Sir James Paget, Bart., LL.D., D.C.L., F.R.S.

Section I., Anatomy.—President, Professor Flower, F.R.S.

Section II., Physiology.—President, Professor Michael Foster, F.R.S., Cambridge.

Section III., Pathology and Morbid Anatomy.—President, Dr. Samuel Wilks, F.R.S.

Section IV., Medicine.—President, Sir William Gull.

Section V., Surgery.—President, Mr. John Eric Erichsen, F.R.S.

Section VI., Obstetric Medicine and Surgery.—President, Dr. McClintock, LL.D., Dublin.

Section VII., Diseases of Children.—President, Dr. West.

Section VIII., Mental Diseases.—President, Dr. Lockhart Robertson.

Section IX., Ophthalmology.—President, Mr. Bowman, F.R.S.

Section X., Diseases of the Ear.—President, Mr. Dalby, F.R.C.S.

Section XI., Diseases of the Skin.—President, Professor Erasmus Wilson, F.R.S.

Section XII., Diseases of the Teeth.—President, Mr. Edwin Saunders.

Section XIII., State Medicine.—President, Mr. John Simon, C.B., F.R.S.

Section XIV., Military Surgery and Medicine.—President, Surgeon-General Professor Longmore, C.B.

Section XV., Materia Medica and Pharmacology.—President, Professor T. R. Fraser, M.D., F.R.S., Edinburgh.

Invitations to attend the meetings will be issued to all legally-qualified medical practitioners in the United Kingdom, and will be sent to the different countries of Europe, to America, the Colonies, and India. Papers may be read in English, French, or German, and will be published in the volume of Transactions in the language in which they are read.

It will be necessary for all who wish to make communications to the Congress to intimate their intentions to the Hon. Secretary-General, Mr. W. MacCormac, F.R.C.S., 13 Harley Street, London, W., before the end of March, 1881.

HONOR TO DEAD AND LIVING.—At a recent reunion of one of the Kentucky medical associations, reported in the *Louisville Medical Journal*, a speaker, after eulogizing former members, spoke in the following flattering strain of our distinguished fellow-townsman, Dr. Gross:

"There remains of the list of founders of this society one who was among its earlier presidents. I allude to Dr. Gross,—a name which always brings the glow of pride to the face of a Kentucky physician. See, his footsteps lead him near the limit allotted by the Psalmist to human life. Yet mark him now, erect as in his prime; the light of great deeds resting upon his front; his eyes gleaming with the fire of perennial youth; his hair all blown back, as on, and still on, he presses through fresh fields to win other triumphs. Shall we not pledge him to-night? Shall we not pledge that shadowy host, whose luminous track is seen of us all, that we will strive to make ourselves worthy of the noble heritage bequeathed us, by seizing the colors which have dropped from their hands as the robes drop from a dead king, and, pressing forward, plant them still farther to the front? Members of the Kentucky State Medical Society, brothers, the answer to these questions rests with each and all of you."

New Treatment of Gonorrhœa.—Mr. W. W. Cheyne, believing gonorrhœa to be due to the presence of infective organisms, has been led to try iodoform and oil of eucalyptus. His theory is probably incorrect, but his results seem to have been very good. He employs the remedies in the form of bougies (size of No. 9 catheter) made of iodoform (gr. v), oil of eucalyptus (♏ x), cacao butter (q. s. ad gr. xl).

The method may be summed up as follows. The patient is first told to empty his bladder, partly to clear out his urethra, and partly to prevent the necessity of expelling the antiseptic from the canal for several hours. He then lies down on his back, and a bougie from four to six inches is introduced, and the orifice of the urethra closed by strapping. The bougie ought to be dipped in eucalyptus oil or in carbolic oil (1–20) before insertion. The patient is instructed to refrain from passing water, if possible, for the next four or five hours. If the case be severe and advanced, he takes another bougie home, and is instructed to introduce it in the same manner after he next passes urine. On that evening, or on the following day, he commences the antiseptic injection, which he uses four or five times daily. On the third or fourth day, when the symptoms have entirely subsided, an injection of sulphate of zinc, two grains to the ounce, is begun.

"The specific cause of the disease being eradicated by this means," says Dr. C., "the question of further treatment arises. It seems to me that, although the development of the gonorrhœa is arrested, yet, if the discharge be allowed to become septic and irritating, urethritis might be kept up for some time. I therefore order an injection of boracic lotion (saturated aqueous solution of boracic acid) or an emulsion of eucalyptus oil (one ounce of eucalyptus oil, one ounce of gum acacia, water of twenty or forty ounces) to be used for two or three days. At the end of that time, injections of sulphate of zinc, two grains to the ounce, may be begun. At the same time the great tendency of the urethral mucous membrane, when once inflamed, to remain in a state of inflammation must be kept in mind, and everything which might tend to keep up the inflamed state must be removed. Notably, the patient must be cautioned against drinking, and it is well to order diluents and alkalies."

Cinchona Consumption.—Mr. Ferguson, in his Ceylon Directory, estimates the total consumption of cinchona bark for the world at 12,624,000 pounds. A writer in the *Colombo Observer* says, "I do not think I am overestimating the number of cinchonas that will be planted in 1880 throughout the island at 20,000,000; allow 5,000,000 for failures and add 5,000,000 for plants planted in previous years and now alive, and it will give you 20,000,000 cinchona-trees, which in five years will yield, either by taking strips and mossing or by the shaving process, about 10,000,000 pounds of dry bark a year." Mr. Ferguson estimates the production of cinchona bark for the world at 13,471,000 pounds, of which Ceylon is put down for 150,000 pounds; "but when," remarks the correspondent referred to, "it produces 10,000,000, as I believe it will in 1885, the total production of the world will exceed the demand of 1876–78 by 10,847,000 pounds. The question therefore arises, Will the demand for cinchona bark in 1885 equal the supply, or will the bark become unsalable except at unremunerative prices?"—*The Medical Press and Circular.*

Vivisection.—The memorial recently presented to Mr. Gladstone, urging him to do all in his power for the absolute abolition of vivisection, was signed by "one hundred representative men," among them Cardinal Manning, Prince Lucien Bonaparte, Alfred Tennyson, Robert Browning, James Anthony Froude, John Ruskin, the head-masters of Rugby, Harrow, and seven other large schools, twenty-one physicians and surgeons, and thirty-seven peers, bishops, and members of Parliament. The memorialists take the ground that vivisection, even with anæsthetics, should by law no longer be allowed, and they quote the opinions of Sir William Fergusson, Sir Charles Bell, and Dr. Syme, that "it has been of no use at all, and has led to error as often as truth." They add that the utility, if proved, would not, in this case, excuse the immorality of the practice.

Dr. Leffingwell's paper, "Does Vivisection Pay?" which recently appeared in *Scribner's Monthly*, excited much discussion among London papers.

Dr. Wood has replied to it in the September number of *Scribner.*

Picropodophyllin is the name given by Dr. Valerian Podwopsotzki to the active principle of podophyllum peltatum. He has isolated it from the podophyllin of commerce and from the root of the podophyllum peltatum as a light, crystallizable, colorless, and exceedingly bitter substance. Experiments upon men as well as animals have proven it to exert in an increased degree the same drastic action as ordinary podophyllin. He has chosen the term picropodophyllin on account of its excessively bitter taste, and to distinguish it from the podophyllin of commerce. His *vorläufige Mittheilung* appears in the *St. Petersburger Med. Wochenschrift,* No. 16, 1880, and he promises some time during the summer to publish an extended account of its chemical properties and pharmacological actions.

TO PREVENT PITTING IN SMALLPOX.—E. Schwimmer has used the following in one hundred and seventy-seven cases with great benefit: Carbolic acid, 4 to 10 parts; olive oil, 40 parts; finely-powdered prepared chalk, 60 parts. The paste was applied on a linen mask.

STEM-PESSARIES.—At a recent meeting of the London Obstetrical Society the condemnation of stem-pessaries seems to have been very general. Mr. K. Thornton, who has had especial opportunities for watching the effects of their use in the most skilful hands, affirms that they do an incalculable amount of mischief. Four or five cases of death resulting from their employment were mentioned.

HONORS TO MEDICAL MEN.—Sir William Gull, of London, and Dr. Samuel D. Gross, of this city, having both received in previous years the degree of D.C.L. from the University of Oxford, have this year been honored by the sister university, Cambridge having conferred upon each of these eminent physicians the highest degree in its gift, that of LL.D.

CHOLERA IN JAPAN.—Sporadic cases of cholera have been reported in Japan from time to time through May and June. About the middle of June it was officially announced that it was prevailing in Kanagawa Ken (Yokohama is in that ken), with a mortality of nearly fifty per cent. It is appearing earlier than in 1879.

DR. TAIT records a case of ovariotomy (*Med. Times and Gaz.*, July, 1880) in which he believes death to have been produced by thymol used after the manner of Lister; also one in which he attributes an almost fatal result to the effects of a five-per-cent. solution of carbolic acid upon the peritoneum.

THE French government has allotted to M. Pasteur the sum of 50,000 francs for the purpose of enabling him to carry out his researches on the contagious diseases of animals.

DURING the past summer semester the Berlin University had 3365 matriculates, 504 of which were medical.

DR. BENNET (*Lancet*, August 7) records a case of aortic aneurism treated with galvanism. Result, death.

THE will of Dr. Alfred Swayne Taylor, F.R.S., the eminent toxicologist, has been proved under a personalty of £60,000.

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NOTES AND QUERIES.

NEW YORK, 41 WEST 20TH STREET,
July 31, 1880.

EDITOR OF *Medical Times*,
Philadelphia, Pa.:

DEAR SIR,—Having been selected by the Paris Committee (Messrs. Ranvier and Dumontpallier) having charge of the subscription for a monument or memorial to the late Professor Claude Bernard to represent them in the United States, I beg leave to be allowed to use your columns for the purpose of appealing to the members of the medical profession and all others interested to subscribe to this worthy project.

I need hardly remind your readers of the great debt which every practising physician owes to the labors of the illustrious physiologist whose memory we are asked to honor in this way.

All inquiries and subscriptions, in the shape of bank-checks or postal money-orders, should be addressed to me.

Trusting that I shall have the advantage of your active personal support in this matter, I remain

Yours, very respectfully,
E. C. SEGUIN, M.D.

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OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM AUGUST 22 TO SEPTEMBER 4, 1880.

CAMPBELL, JOHN, LIEUTENANT-COLONEL AND SURGEON, Medical Director, Department of the South.—Granted leave of absence for twenty days. S. O. 103, Department of the South, September 1, 1880.

WHITE, C. B., MAJOR AND SURGEON.—His sick-leave of absence further extended three months on Surgeon's certificate of disability. S. O. 181, A. G. O., August 25, 1880.

HUNTINGTON, D. L., MAJOR AND SURGEON.—To accompany the President and General of the Army to California, Oregon, Washington Territory, Arizona, New Mexico, Colorado, and Kansas, and then return to his station in this city. S. O. 182, A. G. O., August 28, 1880.

CRONKHITE, H. M., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in the Department of the East, and to report in person to the Commanding General, Department of the Platte, for assignment to duty. S. O. 158, A. G. O., September 1, 1880.

KING, WILLIAM H., CAPTAIN AND ASSISTANT-SURGEON.—His sick-leave granted him July 21, 1880, from Headquarters, Department of Dakota, extended three months on Surgeon's certificate of disability. S. O. 183, A. G. O., August 30, 1880.

HARVEY, P. F., CAPTAIN AND ASSISTANT-SURGEON.—At expiration of his present leave of absence, to report in person to the Commanding General, Department of Dakota, for assignment to duty. S. O. 182, c. s., A. G. O.

AINSWORTH, F. C., CAPTAIN AND ASSISTANT-SURGEON.—When relieved, to comply with S. O. 89, c. s., A. G. O., in his case. S. O. 100, Department of Arizona, August 10, 1880.

SKINNER, J. O., CAPTAIN AND ASSISTANT-SURGEON.—Assigned to duty at Whipple Barracks, A. T., relieving Assistant-Surgeon Ainsworth. S. O. 100, c. s., Department of Arizona.

WORTHINGTON, J. C., CAPTAIN AND ASSISTANT-SURGEON.—Relieved from duty in Department of Arizona, to proceed to Baltimore, Md., and, on arrival, report by letter to the Surgeon-General. S. O. 182, c. s., A. G. O.

COMEGYS, E. T., CAPTAIN AND ASSISTANT-SURGEON.—Granted leave of absence for four months. S. O. 181, c. s., A. G. O.

REED, WALTER, CAPTAIN AND ASSISTANT-SURGEON.—To report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 182, c. s., A. G. O.

BURTON, H. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty in Department of Arizona, to proceed to Boston, Mass., and report arrival there by letter to the Surgeon-General. S. O. 182, c. s., A. G. O.

POWELL, J. L., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Granted leave of absence for twenty days, with permission to leave the Department and apply for ten days' extension, provided he furnish an acceptable substitute, without expense to the United States, during his absence. S. O. 167, Department of Texas, August 19, 1880.

EBERT, R. G., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to duty at Fort Walla Walla, W. T. S. O. 140, Department of the Columbia, August 16, 1880.

PHILADELPHIA MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 25, 1880.

ORIGINAL LECTURES.

CLINICAL LECTURES ON MALIGNANT DISEASES OF THE UTERUS.

BY WM. H. WATHEN, M.D.,
Professor of Obstetrics and Gynæcology in Kentucky School of Medicine, Louisville.

Reported by A. H. Kelch, M.D. (Stenographer).

Lecture I.

GENTLEMEN,—This morning we will consider the important subject of malignant growths of the uterus. Although these are diseases that are usually considered fatal in their results and beyond our power to cure, still our consideration of them becomes important because they are not properly understood by the profession at large. A case of cancer of the uterus will often continue until it has nearly destroyed the life of the patient before the attending physician has any knowledge of—or even suspects—the character of the disease.

In accordance with the latest ideas concerning the pathology of cancerous growths, if we could diagnose the disease in its earliest stages we would often be able to eradicate it thoroughly and permanently relieve our patient. I have recently been very forcibly struck by the fact that physicians and surgeons of some reputation are in the habit of neglecting these patients, or are not able to make a diagnosis of the disease until it is in its final stages. Some months ago I was called by a very aged physician who had been attending, in connection with his son, a woman who for some time was said to have suffered from some inflammatory condition which they could not diagnose. Upon examination, the developed cancerous growth was so manifest and characteristic, having invaded nearly the entire vesico-vaginal septum and bound the uterus down firmly, that the diagnosis was instantly made. The woman has since died. Shortly afterwards I was called to see a negro woman, 70 years of age, who had been treated homœopathically, and afterwards visited by two gentlemen of the regular profession who have considerable reputation as surgeons. None seem to have suspected cancer, as they were giving her stimulant and tonic treatment, telling her and her family that her condition was the result of old age. In the negro the cachectic appearances of cancer are not so well marked, of course, as in the white; but in this instance, from the appearance of the woman, and from her previous history, I suspected cancer of the uterus, and upon examination I found her suffering from this disease in its last stages, and in about five weeks she died. Shortly after, a woman called to see me with uterine disease, not suspecting any malignant tendency. When I introduced my finger into the vagina the character of the disease was so manifest that I made no further examination, but, with the full knowledge that she was suffering from an extensive epithelial growth of the cervix, sent her home. I operated upon her shortly afterwards and removed a mass of cancerous tissue; but the disease had extended so far that it was impossible to remove it all, and, although the operation mitigated the severity of the symptoms, lessened the ichorous discharge, and controlled hemorrhage, she is now very low, and expected to die at any time. These three cases I give as illustrative of quite a number of others. In my hospital practice I have known a great number of them.

A few months ago I was called to examine a woman who had been treated in the female medical ward as a medical patient. Upon examination, I found her uterus entirely involved and the surrounding tissues deeply infiltrated, presenting a tumor pushing up well into the abdomen, the result of sarcoma of the uterus. In fact, I may say that I have never, in my experience with cancerous disease of the uterus, known but one case to come under my observation sufficiently early to hope for any permanent relief from an operation. This was in a woman, 60 years of age, having an epithelial form of cancer that had developed in the mucous membrane lining the cervical canal. I succeeded in removing all the cancerous tissue, which extended up to the internal os, and by the application of caustic the parts healed beautifully, and the woman has been perfectly well since.

While these cases, as a rule, are insidious in their development, yet the physician with a proper knowledge of this subject will not usually allow them to go on to such an extent as to be irremediable before their nature is detected; and the earlier we detect the nature of the disease the greater the chances in favor of the patient. If the diagnosis is not made until the disease has extended up to the vaginal attachment, and the inflammatory products have extended to the cellular tissue surrounding the uterus, we cannot expect or hope to do anything more than to mitigate the symptoms, prolong life to some extent, and smooth the way to the grave. If the disease has not involved the vaginal tissues before we detect it, we may hope to relieve the patient permanently, and we know of quite numerous instances reported by surgeons where the disease has never again recurred. Some will say this is a mistake in diagnosis, and sometimes this may be true, but we have too many instances by men of reputation and experience in this department of surgery to doubt that they are correct in their conclusions.

Cancer is of local origin, and afterwards becomes constitutional by the diffusion of the poisonous or cancerous material, causing thus the cancerous cachexia. The cancerous poison is first absorbed and taken into the glandular structure, through which, if it could pass, it would be eliminated from the system. But here it is obstructed, and we then have the cancerous cachexia developed. If while it is a local disease we remove the growth, I can see no reason why we cannot hope to give permanent relief.

Clinically speaking, there is no necessity for any classification of cancerous growths, since they are all treated alike, and all alike tend, when their course is uninterrupted, to a fatal issue. But histologically there is a difference, and there is also a difference as to locality. Histologically we may classify cancerous growths of the uterus as encephaloid or medullary, as colloid, as scirrhus, and as epithelioma. These are termed purely cancerous growths; but we may classify other malignant growths of the uterus as non-cancerous, but which end fatally, such as sarcoma, myxoma, and corroding ulcer.

Colloid and encephaloid are very seldom met with in the uterus, and it is doubtful if scirrhus be ever found in this locality. The most frequent of all is the epithelial variety. This is nearly always met with in the cervix, and extends subsequently to other structures. The epithelial variety is particularly found to originate in the cervix. Its origin is nearly always from the mucous membrane covering the cervix and that lining the cervical canal up to the internal os, whence it gradually spreads to other tissues. We also find that occasionally epithelioma is styled papilloma or cauliflower excrescence. We may have papilloma that is not cancerous or malignant,—those papilloma or villous projections originating from the expansion of the ultimate twigs and loops of vessels and nerves. From these papillæ the disease first originates. They then increase by the enlargement of the blood-vessels, which become looped upon one another. These growths are covered by a thickened mucous membrane until they begin to break down by ulceration. They then spread out in all directions, and present the appearance of cauliflower excrescence.

There is a variety of opinions in regard to the etiology of cancerous growths of the uterus. The old idea of the heredity of these growths is no longer particularly dwelt upon, and now the generally accepted view is that they are the result of local injury inflicted upon the part; and their more frequent development in the cervix than in any other part of the uterus is in keeping with this theory, because the cervix in sexual intercourse is the part mechanically injured, and it is the part that is lacerated during labor. Dr. Emmet has, in his examination of these cases, discovered that in nearly every instance of cancer that has come under his observation, where the disease had not advanced so far that he could not satisfactorily make an examination, a laceration of the cervix existed. Then again, in his analysis of all cases, he has discovered that in every instance the woman has borne a child or has been pregnant and miscarried. He found, as a result of his analysis, that these women have borne on an average about 4½ children and had 2½ miscarriages. So you see the average number of labors and miscarriages in those women who have cancer is far in excess of what is usual, and we must necessarily infer that the injury to the uterus in labor must be the prime cause. Now, then, it is likely due to perverted nutrition in the attempt to repair local injury, and this may result after labor when there is a laceration of the cervix. The disease does not immediately follow the last labor, but is usually developed after a number of years. When the cervix is badly lacerated there always results more or less hardened cicatricial tissue favorable to the early development of epithelioma. Again, cancer develops at any time from the age of twenty to the end of the woman's life. It is rare between twenty and thirty; more common between thirty and forty; and more frequently observed between forty and fifty years of age. It is most common about the climacteric period. This is so well known by the laity that women have a great dread of this disease at this time of life. Dr. Emmet has seen but one instance of cancer in the negro, and supposes they possess some immunity from the disease. I have seen four or five cases of cancer of the uterus in the negro, and cannot concur in the opinion of Dr. Emmet.

While the symptoms of cancer are sometimes so well marked as directly to call attention to the disease, they are sometimes so masked as not to lead us to suspect any condition of this sort until the disease has extensively progressed, and even gone so far that we can have no possible hope of permanent relief by any operation we may institute.

The most prominent symptoms are hemorrhage, an ichorous discharge, and pain. Finally, the cachectic appearance, that unhealthy straw color of the skin, is manifested. Sometimes the hemorrhage does not appear until the late stages of the disease. The same may be said of the ichorous discharge, and a woman may die of cancer without having suffered any pain. Pain is not usually a marked characteristic until the inflammatory products are thrown out into the cellular tissue around the uterus, causing pain, as it were, by compressing the nerve-filaments between the hardened indurated tissue. But these symptoms generally begin sufficiently early to attract the notice of the woman, and to call our attention to the necessity for a physical examination, before the vagina becomes involved. Generally, very soon after the beginning of the disease we find there is a hemorrhagic discharge or occasional metrorrhagia. Sometimes there is a continuous hemorrhage very soon after the disease begins, which is itself sufficient to call the woman's attention to the necessity for a physical examination, which may now reveal the nature of the disorder. Finally, at this stage the pain may be also sufficient to attract the attention of the woman and of the physician, or the characteristic effect of the disease upon the constitution of the patient is sufficiently well marked to indicate that there is a cancerous disease of some part of the system; but when this has become manifest, the disease has generally progressed so far that without its aid we might determine the nature of the trouble. Our attention having been called to some form of uterine trouble as indicating malignant disease, we institute a physical examination, and when the finger comes in contact with the protruding mass covered by a thickened mucous membrane or an ulcerated surface, we are often at once satisfied as to its character. We may then pass one finger up beyond this mass and come in contact with healthy tissue above, where the cancerous growth has not extended, up to the vaginal attachment. This growth may be found attached to the anterior or posterior lip of the cervix. The surface will be found rough, with uneven, hard, and brittle projections,—not so hard, but rather fragile, and, when torn, followed by profuse hemorrhage. Each of the projections seems to have its arterioles increased in size. If the disease has extended up above the vagina, you will find that the uterus becomes immovable and is bound firmly in its position. You will, in withdrawing the finger, detect a peculiar odor that is so characteristic that when once perceived it will never be forgotten. If the disease is a sarcoma of the uterus, developed, as it usually is, in the fundus, the symptoms will not be so well marked, and the disease may, in some instances, progress until it has impressed the system to a marked degree before it can be detected. We usually in these cases have a serous and acrid discharge, but not so much hemorrhage as in that form which develops in the cervix. We may have, when the disease begins in the body, a watery mucus thrown off that bears a resemblance to the washings of meat. These are the difficulties we may encounter in making the diagnosis until the system is involved, and then we may find that the uterus is much enlarged and bound in its position. By bi-manual examination, then, we may in many instances detect the hardened and indurated tissues, even up in the inguinal regions. The disease at this stage may or may not have involved the cervix. As it involves the cervix it may become dilated, and you will then be able to introduce your finger up into the cavity directly in contact with the growth. Any form of these cancerous growths may involve adjacent tissues until it may include in its ravages the rectum and the bladder, and even fill almost entirely the pelvic cavity. From what I have stated you know, of course, the prognosis. A cancerous growth uninterrupted tends invariably to a fatal result, and the only hope is in timely surgical interference. Where the disease is detected early, before the system is impregnated with the poison, and before it has reached up to the vaginal attachment, we may permanently relieve the patient. Where it has gone farther up and involves the vagina and surrounding structure, and the system is impregnated with the poison, the condition may be ameliorated and life prolonged, but there is no possible hope for a perfect cure. An important question, then, is, How are we to treat malignant diseases of the uterus? This subject will engage our attention at the next lecture.

ORIGINAL COMMUNICATIONS.

CONGENITAL MALFORMATION OF THE RECTUM.

By J. HENRY C. SIMES, M.D.,
Assistant Surgeon to the Episcopal Hospital of Philadelphia.

CONGENITAL malformations of the rectum are of such rare occurrence, and when met with demand such surgical interference, that a record of any such affection and the course adopted to remedy the defect is a sufficient apology for the accompanying publication.

Notwithstanding the infrequency of this malformation, we find there are no less than seven varieties given by Curling in his work on "Diseases of the Rectum," and also that these seven varieties do not include all the congenital malformations to which the rectum is liable.

The case here presented belongs to the fifth class as arranged by Curling: "*Imperforate anus in the female, the rectum being partially deficient and communicating with the vagina.*"

During the latter part of July of this year, a child six weeks old was brought by its mother to the out-door surgical department of the Episcopal Hospital of this city, suffering, as she said, "with some trouble in having a passage from the bowels." Upon examination, there was seen to be an imperforate anus: the opening of the rectum was found to be within the vagina, communicating with it by a small aperture, through which I was able to pass the end of an ordinary probe. By this opening the fæces had been passed since the birth of the child, in a fluid state. But lately the mother had noticed that the fæces were becoming more solid, and that there was more difficulty and pain, evinced by the crying of the child, during defecation: this circumstance gave her some anxiety, and she was induced to bring the child to the hospital to ascertain if anything could be done for its relief. The child, with the exception of this malformation, was in all its external organs normally developed; it was much below the size and weight of a healthy child of the same age; its general health was said to be good, although there was a certain flabby condition of its flesh. The mother's health was very much broken down: she stated that her confinement was very difficult. The nature of the difficulty could not be ascertained, as she was attended during her labor by an irregular so-called doctor, by profession a blacksmith, by practice a physician.

The child, with its mother, was admitted into the surgical ward of the hospital on July 21. The next day, July 22, with the assistance of Dr. Charles B. Nancrede, the following operation was performed, the anæsthetic—ether—being administered by Dr. Cathcart. The child was placed in the lithotomy position; a director was then passed through the opening in the vagina into the rectum: this served as a guide for the incision, which was made along the raphé from the vaginal opening of the rectum to a point a little in advance of the extremity of the coccyx, thus dividing the perineum and a portion of the mucous membrane of the vagina. By careful dissection the rectum was separated from its connection with the vagina and carried back to the posterior angle of the incision made in the perineum, in which position it was retained by two fine silk sutures. The wound anterior to the now turned-back rectum was brought together by a silk suture. A small piece of flexible rubber drainage-tube was passed into the newly-formed anus, and retained in position by means of a ligature made fast to the buttock with adhesive plaster. The dressing consisted simply of a piece of lint saturated with carbolized oil placed over the wound. Before the child had recovered from the anæsthetic a small amount of fæces was seen to flow out of the free end of the drainage-tube. The hemorrhage during the operation was but slight, no vessels were divided that called for ligation, and all oozing ceased when the wound was closed.

Without entering upon the daily details of the progress of the case, it may be briefly summarized in a few words. The operation, which was done to relieve the child of its malformation, was successful. The newly-formed anus, ten days after the operation, permitted a No. 12 (English scale) urethral bougie to pass with facility, and through this opening the child passed all its fæces. At this time the perineal wound was in a healthy condition and granulating very satisfactorily. I may state that direct union of the perineal wound was not obtained: the suture which joined the two sides had given way on the third day.

Owing to the insufficient quantity and poor quality of the milk furnished by the mother, it became necessary to resort to artificial feeding: this, unfortunately, did not agree with the child, and a diarrhœa set in, which of course acted very unfavorably upon its general health. The mother, much to my regret, now became dissatisfied with the restraint imposed upon her, and left the hospital with her baby. I have since learned that the diarrhœa continued and the child died one week after leaving the hospital.

A word in reference to the operation, which is essentially that first described and performed by Rizzoli, of Bologna. In theory this operation is undoubtedly the most scientific and one which should be performed in certain cases, but from my experience in the above case I would be inclined to adopt a more simple operation should an opportunity again present itself. The procedure of passing a director or probe through the vaginal opening into the rectum and turning its point towards the normal position of the anus, so as to act as a guide, then cutting down upon the instrument until the bowel is opened, after which the coats of the bowel may be united by sutures to the borders of the external wound, has been several times performed with very satisfactory results, and it seems to me this very much less complicated method is one that should be employed in very young infants. At a more advanced age, when the parts are to some extent more developed, then the more difficult operation of Rizzoli is applicable.

2033 CHESTNUT STREET.

THE IDIO-MUSCULAR CONTRACTION.

BY B. F. LAUTENBACH, M.D.

THE only unchallengeable proof of the existence of an irritability of the muscles independent of the nervous system is to be found in what Schiff has called the *idio-muscular* contraction, in contradistinction to the well-known neuro-muscular contraction. "A contraction which, like the one of which we speak, is limited to the point of irritation, so that the figures written with a pencil on the muscle remain as swellings, cannot but be considered as resulting from a direct irritation." An argument similar to this was used by Schiff in 1859, but he considered the local contraction which remained sometimes at the point of irritation to be peculiarly of muscular origin, while the contraction of the whole muscle which resulted from a blow or from the application of chemical agents was of nervous origin.

Kühne has since endeavored to prove, and to the satisfaction of Hermann has proved, that the local contraction is only the remains of the general contraction which, according to Kühne, always must precede the local or idio-muscular contraction.

Having said what this investigator endeavored to prove, my readers will not require me to give Kühne's experiments or arguments in this paper, which is in reality only a preliminary communication. Especially will I be granted this boon if it can be shown that the idio-muscular contraction can occur without the whole muscle contracting. When the muscles of dogs, cats, and rabbits were exposed, and a drop of a concentrated solution of the glucoside saponin was put on the fleshy part of the gastrocnemii, a gradual swelling of the parts of the muscles directly touched by the solution was produced, but the muscles in their entirety remained immovable. Electric irritation of these muscles or of their nerves caused them to contract.

These experiments certainly prove that the local contraction of the muscles is not the "remains" of a general contraction, no general contraction having occurred.

But I can go still further, and place a skeleton muscle in such a condition that it can no longer respond to irritations but at the point where the irritation is made,—that is, a general contraction of the muscle is no longer possible, yet the local or idio-muscular contraction can still be produced.

The first experiments in which I succeeded in doing this were made on frogs. The spinal cord and the brain were destroyed, and the muscles of one extremity were laid bare. A weak solution (one per cent.) of saponin was then slowly injected into the heart. In the mean time the muscles were being continually examined as to their ability to contract through the agency of an induction current. When it was found that they had lost their power of contracting in response to the current, mechanical irritants were used; but these also failed to produce a general muscular contraction. The local idio-muscular contraction, however, occurred at the point where the mechanical irritation was made. Electric irritation of the nerve failed to cause the muscle to contract. If the solution be too strong or too rapidly introduced into the blood-vessels, the above result will not be obtained, but the idio-muscular contraction of all the striated muscles of the body will be produced. With the utmost care I was often unable to avoid this result.

In mammals this experiment proved even more difficult, but when it succeeded the results were so striking that they more than repaid the many fruitless experiments. The injection in these animals was made into one of the femoral arteries, and the muscles of the thigh were examined. When fortune was favorable, one of the following results was obtained:

1. The muscle in its upper part lost its power to contract in its entirety, but the local or idio-muscular contraction was still possible.

2. The upper portion of the muscle passed into a state of idio-muscular contraction. Below this there is a zone where the general contraction was no longer possible, yet the local idio-muscular could still be produced. In some experiments there was also a zone of the muscles farther from the point of injection where all the forms of contraction were still possible.

Proof enough has now been given to show that the idio-muscular contraction is not the local more persisting "remains" of a general contraction that the German physiologists before mentioned think it to be. Above has been given the radical proof of this, in that the former can occur without the latter and when the latter can no longer occur.

Elsewhere I have given the reasons why the contractions produced by the application of a strong solution of saponin to the muscles must be considered as idio-muscular.

That the ordinary rigor mortis is naught else than an idio-muscular contraction was claimed by Schiff more than twenty years ago. The microscopical changes in the muscles in ordinary rigor mortis or in Pickford's rigor from heat I have found to correspond exactly with those produced by saponin and the other agents which produce the idio-muscular contractions. When a muscle attached to a still living animal is placed in distilled water it gradually shortens and thickens, and the more it does this the more does its excitability disappear. A muscle thus treated shows under the microscope the same changes as are to be found in the muscles treated with a strong solution of saponin. These microscopical changes seem to depend only on a difference in the degree of contraction in the different "muscle squares," causing the muscle to lose its striated appearance.

In a recent series of experiments the question of the relation which myosin bears to the idio-muscular contraction was examined. A method had to be found by which the myosin of the muscle could be dissolved from the muscle without affecting the other portions of the muscle. The most satisfactory results were obtained by a method suggested by the results obtained by my friend Dr. Danilewsky in his now voluminous researches on the albuminous bodies. According to his researches, such a solvent as I desired was to be found in chloride of ammonium. The salt employed was obtained chemically pure by recrystallization. A five-per-cent. solution of this substance was injected into the heart of a frog until the muscles would no longer respond to direct or indirect electrical irritation. The muscles were then irritated by blows, and especially by soaking them in a strong solution of saponin, but not even the idio-muscular contraction occurred. The idio-muscular contraction must therefore in some manner depend on the presence of myosin in the muscles. The muscles themselves did not appear to be changed, except—and this certainly seems strange—that they were not longer, but rather shorter, than before the injection was made. One would think that after the myosin, which seems to be the contracting substance in the muscle, was removed, the muscle would be longer.

The same result was obtained in the histological examinations. It is well known that the striations apparently disappear in the muscular fibres treated with saponin. But if the muscle has been previously placed in the chloride of ammonium solution, the adding of the saponin will not produce a disappearance of the striations.

CONCLUSIONS.

1. The idio-muscular contraction, or a contraction depending solely on the muscles, is always localized to the point where the irritation is made.
2. An idio-muscular contraction can occur in a muscle which is no longer capable of a general contraction.

NOTES OF HOSPITAL PRACTICE.

HOSPITAL OF ORAL SURGERY.

CLINICAL SERVICE OF PROFESSOR J. E. GARRETSON, M.D.

Reported by William C. Foulk.

AN OPERATION AFTER TAGLIACOZZI FOR THE RADICAL CURE OF EPITHELIOMA.

BEFORE presenting the patient of this morning, I desire to say a word introductory of the hospital in which we find ourselves assembled.

A hospital of oral surgery is an institution new to Philadelphia and to the country. Indeed, the one in which we stand is the first and only one of its kind in the world. This hospital is inaugurated with a view to the establishment of a new specialty.

Some years back your speaker was invited by the trustees and faculty of the Philadelphia Dental College to assist in the instruction of the students of that institution by affording them opportunity, through a clinical service, to familiarize themselves with the various surgical conditions allied more or less intimately with the specialty of dentistry. That clinic enabled its surgeon to lay practically the foundation of a pure medical specialty, which, he is sure, is to prove of a similar service, both to the medical profession and to suffering humanity, as that good found in the advanced ophthalmology of the day as comparison is made with the eye-surgery of thirty years back.

The Hospital of Oral Surgery is at present supported by the treasury of the Philadelphia Dental College, and by such donations as come to it from the charitable. It is, however, to be understood as being a something lying between a dental and a medical school. Students coming to the Philadelphia Dental College as matriculates in dentistry proper are allowed all the advantages of study in the hospital department, but attendance on its clinical service is not obligatory on them.

A class, constantly growing in number, is finding its way to the school with a view to preparation for entrance upon the practice of oral surgery. The study of oral surgery begins with dentistry and ends with medicine. The practice of oral surgery finds its limitation in the abilities of the surgeon who assumes the duties of the department. That it will become a prominent specialty is assured by two factors: it has in it the source of very immediate and reasonable revenue; it is full of scientific interest and complex problems. Students entering this hospital with a view of becoming oral surgeons enter with the object of becoming medical men in the widest meaning of that term. The time of pupilage is three years. The degrees required to be taken are two,—M.D. and D.D.S. One of these degrees is taken at a dental school, the other at a medical college. The explanation will make the class feel at home, I trust, in the two different purposes which have brought the members of it together.

We will now open the clinic.

I have had the opportunity to show, during my connection with the school, quite a number of what are known as plastic operations. One to be done to-day will prove of peculiar interest. The patient belongs to my private practice, and you and I are alike indebted to the gentleman that it is allowed to be performed here.

In the sixteenth century, Tagliacozzi, a surgeon of Bologna, made a reputation which has descended even down to the present day by a device practised by him of converting arm-tissue into noses. To Tagliacozzi must I give the credit for what I am about now to attempt before you, the hint lying in his operation.

It is some twelve years since that a discovery, accidentally made, seems to have placed in my hands a radical cure for epithelioma. By referring to your text-book on Oral Surgery, page 992, you will find a cut representing an operation performed for the restoration of an eyelid which had to be removed in the treatment of the disease named. The case was one of inferred carcinoma; worse than that, there was a cancer history connected with the family. In designing the flap for that operation I found myself restricted for the part of replacement to the neighborhood of the oral angle. The new lid was cut from that part, while an intermediate triangular portion of the cheek was turned down to occupy the place from which the flap had been lifted. Now, the eyelid, as a locality for epithelioma, is a peculiarly unfortunate and unpromising situation; all the chances are in favor of the disease, necessarily against the patient. It was resident in the common experience to expect a speedy return of trouble in this case. The ulcerative action did not, however, reappear; it has not reappeared to this day; the patient is as free from epithelioma as ever in his life.

A little later I operated on a nephew of this patient for the same disease, situated on the left side of the nose. Several previous operations had been performed by a distinguished surgeon of Philadelphia, but in each instance the return of the trouble was more speedy than the healing of the wound made by the knife. For the restoration of the part removed in this case I used a flap taken from the extreme border of the forehead, the pedicle occupying the position of the supra-orbital artery of the distant side, and including that vessel. The disease did not return, and the gentleman has found himself able to secure, lately, an insurance on his life.

Why the disease in these two cases, *peculiarly operated upon*, did not come back was a matter to attract attention. Was the cause in some catalytic influence brought about by the new relation of tissue? There seemed to be no other explanation. It was the one finally accepted. From that time to the present I have lost no patient, neither had return of the disease where epithelioma has had a situation permitting of the practice suggested.

The gentleman before us has epithelioma involving his lower lip where that part relates with the cheek. Already has the case been treated after the ordinary manner of operating, and already has the disease returned. It is a peculiar satisfaction to approach a case of this kind with a confidence inspired of success. I have told the patient I will cure him, and I am assured out of my experience that I will.

What I propose to do is,—first, cut away the ulcer from its base; second, replace the part removed by a flap taken from the hypothenar eminence of the left hand. The gentleman, himself as much interested in the operation as I am, proposes to endure the cutting without an anæsthetic: he wants to understand the matter. I refer you to him as an example encouraging to men pursuing knowledge under difficulties.

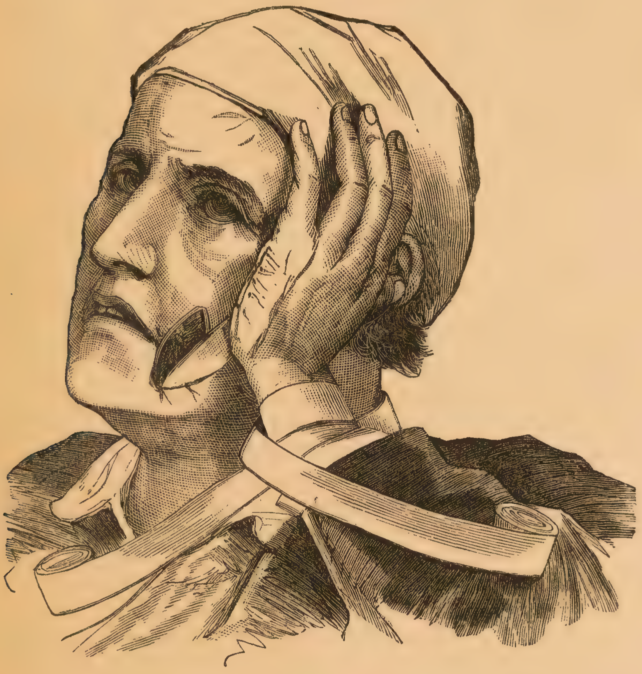
* * * * *

We are now ready for the operation, and to the features of it I particularly recommend your attention.

First, I remove the portion of face upon which the disease has fixed itself. I do this by means of an elliptic-shaped cut. . . . This is now done, and I show you clearly exposed the depressed anguli oris muscle. The parts, as you see, are extra vascular; this they always are where this vice is present: vascularity is diagnostic. Three vessels are bleeding with a freedom which requires the use of ligatures. We tie them and dry the parts. This done, we wait for the process of glazing.

The courage of the gentleman not being abated by this first step of the operation, we pass to the second. Having the hand firmly held, I repeat the incision by ellipse along the hypothenar eminence. Observe, however, I do not cut the piece entirely away from its attachments, as upon the face. I leave a pedicle: this with a view of temporarily feeding the ellipse. To cut about the hand is excessively painful. Our patient is without feeling, or, what amounts to about the same thing, is possessed of endurance stronger than pain. If, however, he can stand this work, assuredly we can: the courage is not at all in cutting, but in submitting to be cut.

The third step implies the stitching of the flap from the hand into the place prepared for it upon the face. This is a feat not without difficulty. First, I place over the vault of the head a cap made to fit accurately. Next I attach a double bandage about the wrist of the hand operated upon. I now close with stitches of the interrupted suture the wound of the hand, leaving the flap pendent. Lifting the hand to the head and directing the palm to the side of the face, observe with what nicety I find myself able to adapt part to part. You wondered, perhaps, why I cut so long a pedicle. Had I not done that, I could never, as you must see, have accomplished the stitching now attempted. . . . The stitching is now finished to my entire satisfaction.



The hand is next to be attached immovably to the side of the face. This with the means prepared is no difficult matter. I pass one roller obliquely over the vault and a second beneath the chin. I now proceed after the manner of a double Barton bandage,—a style of dressing with which you are all familiar.

The hand and wrist firmly fixed, a succeeding step is the support of the elbow and forearm. A simple manner of accomplishing this is to button the patient's vest over the parts. A second plan—one I shall adopt this morning—is found in the use of the third roller of the Velpeau bandage. This done, nothing remains but to hope for the life of the flap and to separate it from the hand at the proper time,—a period that will vary from forty-eight to seventy-eight hours.

Restlessness and irritability being associates of plastic operations, sedatives are indicated. In the present instance I will wait, however. The strength of resistance possessed by our patient may be proof against irritability. Opiates, where they do no good, always do harm; never use them unnecessarily. If restlessness supervene, I will prescribe thirty-grain doses of bromide of potassium. If the pulse run up, I will conjoin with this five-drop doses of tincture of *veratrum viride*. If fever show itself, I will direct tablespoonful doses of a formula as follows:

℞ Liquoris potassii citratis, ℥iij;
Spiritus ætheris nitrosi, ℥ss;
Antimonii et potassii tartratis, morphiæ acetatis, āā gr. j.

Sulphate of morphia you all know as the great sedative; with it you can quiet to any degree, even down to the stillness of death itself. The dose is from one-eighth to half a grain repeated *pro re nata*. Many surgeons recommend that immediately after all operations of consequence a one-grain pill of morphia be given. If the medicine be exhibited in a vehicle of judgment, the prescription proves no bad one.

In doing plastic operations, where immediate union is the *summum bonum*, never use chloroform. Chloroform interferes with the process of glazing, and without the glaze the promise is little.

Another matter to look after in operations of the kind just done is maceration. Between the palm of the hand and the face I will lay a piece of old and soft linen. Maceration comes on very rapidly where the weather is warm enough to excite perspiration. From lack of such simple care as is expressed in the use of this little strip of cloth many otherwise perfect operations have proved blank failures. Do not overlook the fact that a flap does its utmost in preserving its vitality; never put unnecessary work on it.

A flap doing well is to be let alone. Think not to make a well thing better. Where a diminishing vitality is seen, as shown by a flap growing dark, dry heat and other stimulants are to be employed; not only local but constitutional stimulants.

Preparation of a patient for a plastic operation is a matter not to be left unconsidered. A plethoric man is to be reduced, an anæmic one built up. With the first the lancet, or preferably, as a rule, sulphate of magnesia, is to be used; the latter demands iron, gentian, and similar tonics.

Another very important—indeed, in a sense, all-important—matter associates with plastic surgery; namely, calculation. Never do a new or an untried operation on a living face until you have first done it on a dead one, or, if this last be impracticable, do it upon a paper face. I have seen in my time a surgeon standing utterly confounded in the presence of a large class, a great wound before him, a flap and pedicle too short to fill up, nothing fitting. Make a blunder of that kind once, and you will never get over it; it will be found to have undermined your confidence, and without this quality a surgeon is nothing.

Proposing to show to-day some operations in general surgery on other private patients, I now pass from the present case, directing your studies for the evening to the subject as illustrated in our text-book, pages 952 to 1008. I trust you will find much interest in the review. See if some of you cannot devise better manners of operating than you find there described. I will promise the vote of my chair to that one among you who succeeds in showing me an improvement in facial plastic surgery.

[NOTE.—The flap was separated from the hand forty-eight hours after the operation. Two weeks later the patient was shown to the class, the union and relation of the parts being complete. The wound in the hand was getting well rapidly, part of this latter cure being necessarily by granulative action. The scar upon the face promises to be almost unobservable after a very short time.]

Case II.—The patient now seated before the class is afflicted with specific caries of the hard palate and alveolar process. I want you that are near to look into the mouth and observe the cribriform aspect of the mucous covering of the jaw. As you see, there are some half-dozen holes, each exposing bone. The hard palate and processes are pretty well destroyed; certainly they are beyond the power of self-restoration. A very efficient practice to pursue in such cases will now be shown.

The machine before you is the surgical engine,—a machine that will grow wonderful to you in proportion to your acquaintance with it. A little instrument held in my hand is what is known as a stoned rose-head; it is in reality a globe made up of chisel-edges. I attach this globe by means of its bitted mandrel to the hand-piece of the engine. Starting the engine, I revolve the rose-head before you,—now faster—faster still. The instrument is now apparently motionless. Its velocity is two thousand revolutions to the minute. It will cut now without hurting.

The velocity maintained, I now pass the apparently motionless blades into the holes, one after the other. The patient makes no complaint, yet I am cutting the roof of his mouth away. . . . Now he has neither hard palate nor alveolar process, yet the mouth looks about as it did before the operation was commenced. It is not unlikely that these breaks in the soft tissues will granulate and thus preserve perfectly the separability of mouth and nose. The following local wash will be prescribed, to be used several times during the day:

℞ Acidi carbol. fl., gtt. vi;
Tincturæ calendulæ, ℥v;
Aquæ, ℥viii.—M.

When the patient recovers from the effects of the present operation I will turn him over to the dental department, and he will there have fitted to his mouth an artificial palate with teeth attached, which will be made to articulate for purposes of looks and mastication with those in the lower jaw. I will show him after a few weeks made up about as good as new.

◆

SALICYLIC ACID AS AN ANTHELMINTIC.—Dr. Tlyin has used this acid successfully in a number of cases of tænia. He begins with ℥j of castor oil in the evening. In the course of the following day the patient takes from ʒss to ʒj of salicylic acid, and in the evening another dose of castor oil. Only in a single case was it necessary to repeat the treatment.—*New York Medical Record.*

TRANSLATIONS.

Inflammation of the Vulvo-Vaginal Gland.—In an interesting lecture on this subject, published in *La France Médicale*, No. 58, 1880, M. Martineau refers to Huguier as the foremost authority. Following him, he remarks that the disease is usually observed between the years of seventeen and thirty; it is very rare before puberty and in aged women. In thirty-seven cases coming under M. Martineau's care, thirty-five occurred between the ages of sixteen and twenty-three years. The causes which may bring about this form of inflammation are excessive sexual indulgence, disproportion of the genitalia, menstruation, contagious affections, such as blennorrhagic vulvitis and vaginitis, traumatism of the genital organs, violation, difficult defloration, repeated manœuvres of masturbation, sapphism, and friction of the vulva in working the sewing-machine. Of M. Martineau's thirty-seven cases twelve were due to excessive coitus. Huguier believes that functional super-activity of the organ, such as is produced by sexual excitement, may give rise to inflammation. The facts, however, do not support this hypothesis. In all probability the direct friction or pressure of the virile organ is at fault. With regard to inflammation of the vulvo-vaginal gland due to the use of the sewing-machine, M. Martineau gives a case occurring in a girl of twenty-four, and following ten hours' continuous work on the sewing-machine. A class of cases of considerable etiological importance is that where the inflammation is due to vulvo-vaginal blennorrhagia. Twenty-five of Martineau's thirty-seven cases were due to this cause. The affection usually attacks only one side; only in two cases was it double. Blennorrhagia appears to have a peculiar predilection for the vulvo-vaginal gland. It is well to know this, not only because the affection may easily escape attention and become the source of contagion unless one is on the lookout for it, but also because it is the source of frequent relapses by auto-inoculation. It appears from Martineau's observations that inflammation of the vulvo-vaginal gland is more apt to occur about the menstrual period.

The symptoms of the affection are as follows. At first there is a little heat and itching, with slight humidity of the vulva. If one and the other gland is palpated alternately, one is found more prominent than the other; at the same time palpation gives rise to slight pain, and causes the exit of a little stringy mucus, already clouded with pus. In the course of the next few days all these symptoms become more marked; local examination shows a small, hot, painful tumor between the labium minus and the labium majus. This is about the size and shape of a small pear, obliterates the vulvar orifice, is more prominent backward than forward, and below than above,—corresponding, in fact, to the lower segment of the labium majus, the upper portion of which remains unaffected. The tumor is smooth, shining, violaceous, and resistant to the touch. After several days, fluctuation is shown, and the abscess opens spontaneously through the vulvar mucous membrane in the neighborhood of or through the excretory duct itself. Ordinarily the pus is inodorous, but if blennorrhagia coexists it is fetid and nauseous. As so often happens in purulent collections situated near the digestive tube, a sort of osmosis takes place, and a fecal odor is at times perceived. The disease runs its course in eight or ten days, usually terminating in induration of the gland, but occasionally leaving a fistula which may require surgical interference for its relief. From phlegmon of the labium majus the affection under consideration may be distinguished by the fact that the former protrudes outward, not inward; also that phlegmon is less circumscribed and not so apt to be unilateral. Phlegmon finally may occur in the labia minora, the clitoris, or the mons veneris. From cyst of the excretory canal, which resembles the tumor of vulvo-vaginal inflammation very closely, the diagnosis may be made from the fact that the cystic tumor is smaller, indolent, without inflammatory reaction, its greater diameter is transverse to the excretory canal, and pressure gives rise to the exit of a colorless, slightly viscous, non-purulent fluid.

The treatment is simple. Emollient cataplasms of starch and baths of the same may be employed. Linseed poultices should not be used, because they are often irritant to the mucous membrane. The patient should be kept quiet. It is usually better not to open the abscess with the knife, as fistula is likely to form. If pain is severe, however, the knife may be used, the puncture being made in the nympho-labial groove near the opening of the excretory canal of the gland. A small piece of charpie should be placed in the wound to prevent too rapid union. If a tendency exists to the formation of fistula, the canal should be touched with nitrate of silver. In certain cases this is not sufficient; the abscess returns repeatedly, and it becomes necessary to excise the gland. To do this, an incision is made in the nympho-labial groove, the lips of the wound are then lifted and the gland carefully dissected out. The arteries should be tied, or otherwise inconvenient hemorrhage may ensue. Charpie, soaked in one per cent. solution of chloral or a still weaker carbolic acid solution, may be used as a dressing.

VARICOSE PHLEBITIS OF THE CALF—THROMBOSIS OF THE LEFT FEMORAL VEIN—PULMONARY EMBOLISM OBSTRUCTING THE RIGHT PULMONARY ARTERY.—Dr. Gautier reports (*Le Progrès Médical,* 1880, p. 593) the case of a patient admitted to the hospital for chronic alcoholism, who was seized with severe pain in the left calf, accompanied by slight swelling and œdema of the limb, and lasting a week. At the end of that time the patient returned to his work, but suffered lancinating pain in the limb after severe exertion, and, this increasing, a fortnight later he was again obliged to return to the hospital. On examination the leg was found slightly swollen and painful to the touch. No varicose veins could be observed, nor could any hard cord be felt in the line of the saphenous or of the femoral vein, which were not painful on palpation. No other abnormal symptoms throughout the body. Diagnosis, inflamed deep varices. Treatment, rest in bed, inunction with chloroform and oil of hyoscyamus, with envelopment in cotton. In the days following the right calf became the seat of similar symptoms, while the left grew better. At the end of a week the patient, contrary to orders, rose from his bed to go to the water-closet. While on his way he was suddenly seized with giddiness, fear of imminent death, and cyanosis, followed a little later, after going to bed, by extreme pallor, with a profuse cold sweat, and some vomiting of watery fluid. Next morning, examination failed to show anything wrong with lungs or heart. A few nights later the patient was waked by severe dyspnœa, with cyanosis, followed, as before, by pallor. No physical symptoms in lungs or heart. This dyspnœa became more constant in the succeeding week; a slight enfeeblement of the first sound of the heart became noticeable; respiration rose to seventy-two. Bleeding and blistering were employed without relief, and the patient finally succumbed.

The post-mortem examination showed the right auricle of the heart greatly distended, filled with currant-jelly clots like those in the left heart. The auricle was filled with clots already somewhat old. On opening the pulmonary artery large clots were observed at its bifurcation, extending into the smaller branches. No disease of the artery could be observed at the point of origin of the clot. On examining the veins of the lower extremities the intra-muscular veins of the two calves were found filled with hard clots adhering to their walls and completely filling the calibre of the vessels. On the right side the saphenæ, the popliteal, the femoral, and the iliac veins were free. On the left side the saphenæ were free, but the other veins were filled by an old, hard, adherent clot, with empty spaces here and there, due to retraction. The coagulum terminated at the point where the iliac vein enters the vena cava inferior by a thin, snake-like, flattened head, which left the right primitive iliac vein quite free. The clot was soft and friable.

TÆNIA FOUND LIVING AT AN AUTOPSY.—At a recent meeting of the Société Médicale des Hôpitaux (*La France Méd.,* 1880, p. 445), M. Laboulbène related the case of a patient who entered the hospital under his care for tænia and who died suddenly. The patient succumbed in a quarter of an hour, vomiting a small quantity of red blood, and was believed to have died from the rupture of an aneurism of the pulmonary artery. At the autopsy the tænia was found knotted together and extending along some nineteen inches of the small intestine. The head was found in the middle of the coil, but directed towards the superior extremity. A number of living lumbricoids were also found. The tænia when stretched out measured thirteen feet four inches. In the discussion which followed, M. Davaine cited some old observations on tænia solium found by accident in cadavera. The head was always directed towards the gastric extremity of the intestine, and the tail towards the anus. M. Damaschino gave a case where a bothriocephalus twenty-eight inches in length and curved thrice upon itself was found in the small intestine. The head was directed towards the pylorus, the other extremity towards the ileo-cæcal valve. The dead animal was glued to the mucous membrane by a tough mucus. M. Dujardin-Beaumetz asked M. Laboulbène if he believed in the digestion of tænias. In a patient of Dr. Fernet's, the subject of tænia, pelletierine was given, but the patient did not pass anything. At the autopsy made a little later, nothing was found. He had seen several similar cases in which the patients had taken pelletierine but had passed nothing. Notwithstanding this, they had appeared to be cured. M. Laboulbène said he had recently seen two cases where pelletierine had been given and nothing passed in the stools, but the worm had been passed by the mouth. M. Fernet, however, remarked that the first stools passed by the patient mentioned by M. Beaumetz had been lost, therefore that case proved nothing.

Officinal Multiple Antidote.—M. Jeannet, in a memoir read before the Société de la Médecine Légale (*La France Médicale*, 1880, p. 539), proposes the following formula:

℞ Solution of ferric sulphate (D = 1, 45), 100 parts;
Water, 800 parts;
Calcined magnesia, 80 parts;
Purified animal charcoal, 40 parts.

The various ingredients are to be preserved in two portions until required. One of these contains the solution of ferric sulphate, the other the magnesia and animal charcoal in a flask with the water. At the required moment the ferric solution is poured into this flask and strongly agitated. The mixture should be administered in rapidly successive doses of three to six ounces. Employed in convenient quantities, it renders the preparations of arsenic, zinc, and digitalin insoluble. It does not render oxide of copper completely insoluble. It leaves appreciable quantities of morphia and of strychnia in solution. It does not decompose, and does not precipitate cyanide of mercury or tartar emetic; it saturates free iodine completely; it acts only in part upon solutions of the alkaline hypochlorites. This formula is preferable to officinal hydrated peroxide of iron, because the latter after a time undergoes a molecular modification which renders it useless against arsenical compounds. While this antidote is very useful in many forms of poisoning, it is powerless against the mineral alkalies, phosphorus, the hypochlorites, the cyanides, and tartar emetic.

Experimental Uræmia.—MM. Feltz and Ritter have recently published in the *Revue Médicale de l'Est* (June 15) a paper upon experimental uræmia, of which the conclusions are as follows:

1. The sudden suppression of the urinary function by ligature of the renal vessels gives rise to a rapid poisoning of the organism, commencing with gastro-intestinal troubles and terminating in serious disorders of the nervous system.

2. The maximum duration of life in animals who have been submitted to this operation is three days.

3. Under these conditions the urea and extractive matters increase in the blood almost proportionately to the duration of life; these substances appear in all the liquids of secretion, which indicates on the part of the organism an effort of elimination going to supply the renal function.

4. Injections of pure urea in large doses into the blood of animals in whom the renal vessels have already been tied causes the accumulation of extractive matters and of urea to a much greater extent than simple ligature, without appearing to hasten the nervous symptoms and death.

5. By substituting, under the same circumstances, for injections of large doses of urea injections of fresh urine, well filtered and acid, not ammoniacal, in quantity equivalent to that secreted by the animal in twenty-four hours, nervous accidents show themselves more rapidly and death is hastened, which seems to indicate that the urine as a whole has a more energetic toxic action than urea and extractive matters.

Action of Pilocarpin on Uterine Contractility.—From a thesis on the abortifacient qualities of pilocarpin, by Dr. Marti Autet, analyzed in the *Bulletin Général de Thérap.* (1880, vol. ii., p. 142), we take the following conclusions:

From the examination of cases observed in women during pregnancy and labor, and from experimental researches on animals in gestation, it appears (1) that in a certain number of cases subcutaneous injections of pilocarpin have had an absolutely negative result: they have not determined the occurrence of uterine contractions (Welponer, Parisi, Hyernaux, Saenger). 2. A certain number of experiments on animals have had the same result (Hyernaux, Chantreuil). 3. However, when the uterus is found in certain conditions, subcutaneous injections of pilocarpin appear to exercise some influence: such a condition is that of labor already begun or about to begin. 4. In these particular conditions the uterine contractions occur generally some minutes after the subcutaneous injection of pilocarpin; they increase for a time, then remain stationary, and finally diminish. New injections secure the same effects (Kleinwachter, Saenger). 5. In certain cases the contractions observed after the injections have determined the accouchement (Massmann, Schanta, Kleinwachter, Saenger). 6. Sometimes their action is insufficient to bring about the expulsion of the product of conception. 7. From this it appears legitimate to conclude that if at full term or at the beginning of accouchement pilocarpin appears to have a true influence on the contractility of the uterus, on the other hand the subcutaneous injections of this medicine are almost constantly inefficacious for the purpose of provoking premature accouchement.

Bloodless Operations on the Female Breast.—H. Leisrink (*Cbl. f. Chir.*, No. 30, 1880), in a case where tumors of the mamma, accompanied by continuous hemorrhage, threatened the life of the patient, made use of a compression apparatus somewhat like that used in the operation for phimosis. Two parallel steel rods were arranged, by means of transverse extensions at either end of one running through holes in the ends of the other, and moved by the aid of nuts running on a thread cut in the transverse bars, so as to be approached with considerable force. They were then attached to the root of the mamma, which was pendulous, and, the nuts being turned, such compression was obtained that the vascular supply to the breast was entirely cut off and amputation performed without the loss of a drop of blood. Of course, in the case of plump, round breasts this apparatus could not be employed; but, inasmuch as tumors of the breast commonly occur at an age when the adipose tissue of the organ has to a considerable extent disappeared, it may be hoped that this apparatus shall find extensive employment among surgeons.

Low Body-Temperature.—W. Kosürew (*Cbl. f. Chir.*, 1880, p. 494) gives the case of a Cossack who fell from a height, wounding the parietal tissues of the head. He was unconscious for three days, and survived only five days. During this time his pulse was 44 in the minute, and his temperature ranged in the morning from 27.2° to 28.5° C. (80.9° to 83° F.), and in the evening from 26.5° to 29° C. (79.7° to 84.2° F.). On post-mortem examination no fracture of the skull was found, but the vessels of the brain were found much congested, and the substance of the organ filled with small points of hemorrhage.

Salicylate of Sodium in Chorea.—M. Dresch employed salicylate of sodium with marked success in the case of a child, 10 years of age, affected with chorea of rheumatic origin. He commenced giving six grammes of the salt in the twenty-four hours in divided doses. The first day the medicine occasioned vomiting after each dose, and sleeplessness. The second day it was borne better, and all the symptoms improved. After having taken thirty-four grammes of the salt, the choreic movements were almost entirely suspended; the medicine was stopped, and in eight days after the commencement of treatment the child had quite recovered.—*Bull. de Thérap.*

Treatment of Oxyuris Vermicularis.—Simon (*Le Progrès Médical*, 1880, p. 578) recommends from time to time a biscuit containing .10 decigr. santonin, followed immediately by a powder of .50 decigr. calomel. Every evening an enema is to be given, composed of an infusion of aromatic plants, as absinthe, pyrethrum, or fennel, or of water containing two drachms of carbolic acid to eight ounces.

Of equal advantage is the following ointment, with which the mucous membrane of the rectum may be smeared:

℞ Ung. hydrarg.,	10	grammes;
Camphoræ,	2	"
Axungiæ,	30	"
M.		

The ground has been purchased for the new buildings of the Harvard Medical School, and it is hoped that the buildings will be finished in 1882.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, SEPTEMBER 25, 1880.

EDITORIAL.

MEDICAL REGISTRATION.

THE history of the bogus-diploma business of Philadelphia will be taken by many as strong evidence of a complete lack of public spirit in the profession of this city. We, however, think that action was prevented not so much by indifference as by the feeling that it was hopeless to contend with the politicians who congregate in Harrisburg, and some of whom have, in the past, apparently assisted in or winked at the nefarious practices of Dr. Buchanan and his associates.

The times have, however, changed, and the current of public opinion is setting so strongly in the direction of protecting the community from unqualified doctors that no political interest can save those who have traded so falsely. Dr. Buchanan's dodge of suicide has failed. In vain did he, or some one personating him, leap into the Delaware: with forfeited bail he now languishes in prison. If there still be, as we hope, among the profession of this city a live public spirit, the opportunity is now afforded for it to show itself and take advantage of the general stir. A well-concerted effort to obtain a medical registration law from our next Legislature would almost certainly succeed. We ourselves would like to see legislation go further than this. If our civilization continue, the day will assuredly come when those who would enter upon the practice of medicine will be compelled to pass a public State examination; but for this the times are not yet ripe. There are yet too much honest difference of opinion and too many conflicting interests in the profession for it to unite in the effort to obtain legislation looking to such end. It is different with medical registration. We do not think that any one of influence will claim that an attempt at registration can do injury; though many may believe that it will be futile. The good to be obtained from a strictly-enforced registration is patent. The credentials, as it were, of every man would be public to all citizens, and the not-a-few who possess no credentials would be driven out of the commonwealth.

Such a law could be based upon the one adopted last winter by the Albany Legislature. This requires every physician and surgeon to register in the county clerk's office his name, residence, and place of birth, "together with his authority for so practising physic and surgery." He must make affidavit that he has been authorized by diploma or license to practise, and must specify when and by whom such diploma or license was granted. For this registration a fee of twenty-five cents is to be paid to the county clerk. Every person who enters upon medical practice hereafter in New York is required to register before beginning practice. A heavy fine, which is increased and coupled with imprisonment in case of a second offence, is imposed upon any one not complying with the provisions of the act before October 1, 1880. As half of the fine is to go to the person making the complaint, the law is not likely to become a dead letter for lack of some one to move for its enforcement. Heavy penalties are also prescribed against any doctor who shall make a false registration or shall practise "under cover of a diploma illegally obtained."

The provision of the law in regard to doctors going to New York from other States seems to us unwise, unjust, and probably unconstitutional. It requires the class of persons alluded to to submit their diplomas and credentials to some medical school of the State, the institution having the power to declare whether registration shall or shall not be allowed, and to exact a fee of twenty dollars. Such a provision should certainly be omitted from any future law in our own State.

There is no body, except the State Medical Society, to which it would be more becoming to inaugurate a movement looking towards the obtaining of a registration law than the Philadelphia County Medical Society. Is there not public spirit in it sufficient for the purpose? Let us make the experiment. With a registration law working well in New York and Pennsylvania, it would not be long before the smaller States would follow.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE.

THE scope of this magnificent work has been so frequently discussed in these columns that no words concerning it are required in announcing the appearance of the first volume. Most heartily we congratulate Dr. Billings upon the completion of the first of his ten labors,—labors which when finished will make him *facile princeps* of medical bibliographers. We congratulate also the American medical profession, to whose persistency a niggardly Congress so reluctantly yielded, and we congratulate medical workers the world over that so much has been done to lighten their search after the known.

The typographical appearance of the book is very good, and the freedom from proof-errors remarkable. Its nearly two thousand columns contain nine thousand and ninety author-titles, nine thousand subject-titles of separate books and pamphlets, and thirty-four thousand six hundred and four titles of articles in periodicals. Multiply this by ten, and then think how much an American youth in many of our medical colleges is expected to acquire in eighteen months!

LEADING ARTICLES.

WESTERN MEDICINE IN JAPAN.

THE past thirty years have witnessed great changes in Japan. In but few of the departments of learning and practice have there been so great changes as in that of medicine. From the little scraps of medical lore escaping the meshes of the cordon about the Dutch traders at Decima, from the schools and hospitals at a later date established at Nagasaki and Osaca, from the knowledge inculcated by the Dutch, English, and American physicians employed at the various large hospitals in the empire, as well as from the "I-Gakko" under German auspices at Tokio, have entered into "Dai Nippon" the idea of Western medicine, its accepted facts, its theories, and its methods of practice. The want of exact knowledge in the system imported from China, together with its crude theories of centuries' growth and its cumbrous system of practice, is becoming more and more apparent to this progressive people of the Orient. Western medicine is slowly and steadily making inroads among the rank and file of the Chinese school. In June, 1876, the number of medical practitioners in the returns of two cities and forty-three prefectures was estimated at 23,284, about twenty-one per cent. of whom were practising medicine according to the Western system, and all of the remainder either according to the mixed systems of China and the West, to that of China and Japan, or to the pure Japanese one.

Knowing that it would be impossible to make the change to the new methods at once and thus to secure uniformity, the government adopted a politic course. It strongly recommended to the young medical students to pursue only the most approved course of study, and to those now in practice to continue as in the past, or to make such changes as the exigencies or advantages of their practice might afford. In 1876 the late home minister, Okubo, issued a notification "that the examination of candidates for a certificate to practise medicine in accordance with the following regulations shall be introduced into every prefecture as soon as the condition of medical men in each prefecture shall admit:

"*REGULATIONS FOR THE EXAMINATION OF CANDIDATES.*

"*Article* 1.—Any one desirous to become a medical practitioner shall be required to apply for a certificate, which shall be given only after the prescribed examination has been passed satisfactorily.

"*Note.*—Any one who has been at the time of the issue of these regulations practising medicine shall not be obliged to subject himself to an examination. The *local* authorities shall therefore take the proper measures to distinguish such medical practitioners from those who have been licensed after a satisfactory examination. . . . The subjects for examination for candidates are the general principles of natural philosophy, of anatomy, of physiology, of pathology, of pharmacology, and the theory and practice of medicine and surgery. . . .

"*Article* 3.—The examination shall be held at a convenient place, such as the local government office or public hospital; and the results shall be reported to the Home Department, which shall grant the certificates." . . .

In June, 1877 (the date of the last published report), there was in Japan a population of 32,812,116, of whom 31,268 were medical practitioners (this enumeration includes all of the prefectures except Kagoshima), giving a proportion of 0.91 to the thousand of population. Of this army of "doctors," 20,568 were followers of the Chinese system; 4098 mixed and non-classified; 6402 the Western system; and 200 licensed after the prefectural examination. Though no official reports are at hand, yet the testimony of the native physicians I have met in Hokkaido and at the line of hospitals in North Nippon is to the effect that Western medicine has made greater progress during the past three years than at any previous period; that the number of the Chinese school of doctors is decreasing; that the people are slowly being educated up to the advantages and benefits of the new treatment, though a very large number still adhere to the old methods; that local hospitals and dispensaries are springing up in all parts of the interior, and that the Western ideas of hygiene and sanitation are receiving increasing attention from all the local authorities.

Each month some new translation of lecture-notes, medical essay, monograph, or practical manual appears from the Japanese press. They have an extended circulation. They are issued in a cheap and tasteful form. They have eager readers, not only among the partially-educated medical class, but even among the followers of the ancient methods. There are now six medical periodicals issued in Japanese. They are largely made up of translations from the American and European medical press, for as yet little original work has been done here. The two having the ablest editors and the largest circulation are the "*I-ji-Chimbun*" (weekly) and the "*I-ji-Shinshi*" (monthly), issued at Tokio. The following are a few of the topics treated in a recent issue of the "*I-ji-Shinshi*": mercurial baths; injurious effects of wine on the general health; causes of intermittent fever; a case of difficult parturition; uses of jaborandi; government physicians *vs.* private practice, etc., etc.; reports from the medical college; hospital reports; items.

Hospitals.—Before the coming of the Western war-vessels to Japan there were no hospitals here. If a patient desired more than ordinary attention from his physician, he entered the home of the Chinese doctor and became one of the family. The nobles and the higher officials had their household doctor. Little or no provision was made for the sick poor. In old Japan humanity was abundant and life was held cheap. The first hospital in Japan was established by the Shogunate in 1861 at Nagasaki, and placed in the charge of Matsumoto, then a student of Dutch medicine, but who has since become inspector-general of the army medical department. The hospitals were and are even now in some degree institutions in which only the paying classes can obtain attention and treatment. Since the Restoration of 1868, hospitals have been established by the Mikado's government in various cities and prefectures of the empire. The staff in these institutions include the best educated (in modern medicine) and most experienced physicians of their several sections. To these institutions come the sick of the higher classes, the official class, the paying classes, and the cases with which the ordinary practitioners cannot cope. At all the hospitals are a large number of young men pursuing their studies, and who also act as drug-clerks, dressers, and clinical clerks until they are able to secure a proper certificate. Connected with the in-department is an extended out-patient department, where all are examined and prescribed for, but each one pays a small fee for the medicines; also a vaccination department and one for the periodic inspection of the public women. (The "social evil" is not only admitted and recognized here, but it is regulated in a very efficient manner. Many features of the system here pursued are worthy of the attention of the West.) In 1877 there were 64 public, 7 general government, 35 private, and 5 lock hospitals. Since then there have been established new hospitals in several of the inland ken, two large ones at Tokio, and one each at Kanagawa, Awomori, Sendai, and Fukushima, to my personal knowledge.

The form, method of construction, and kind of equipment vary in different parts of the empire. In Yezo, where the winters are long and oftentimes of severity, the pavilion form is adopted, each of one or two stories, the walls of which are made in the Western method of wood and provided with double windows. The pavilions are connected with each other and the administration building by open corridors, which can be closed in with the movable Japanese *shoji* or *to.* This form is also to be commended, as in case of fire, which is of great frequency, each pavilion can be soon isolated. The *to* are made of thin pine boards on a firm frame. The *shoji* are made of white translucent fibrous paper stretched over a light wood lattice. The wards are provided with rude bedsteads, having a matting of straw, *futons* (thick cotton-padded quilts), and blankets. No sheets or pillow-cases are provided. At Awomori, on the north coast of the mainland, the buildings of the new hospital are of two stories and grouped about a hollow square. Farther to the south the Japanese form of building has been adopted, except at the military hospital at Sendai. This form uses light floors, light posts, and a heavy, somewhat projecting roof. They are usually of two stories, forming a hollow square about a little garden having dwarfed trees, fish-pond, stone lanterns, etc. On all sides are narrow verandas, having on the outside movable *to*, and on the inner, adjacent to the rooms, *shoji.* All rooms can be entered from the veranda. Each room is about nine feet by twelve, separated from the adjacent rooms by paper *to* sliding in grooves, all of which can be easily removed. The floors are covered with *tatami* (thick, straw-padded mats), upon which are placed the *futons* and blankets, no Western furniture being used. When you enter, your shoes are left on the veranda. In summer all of the outer *shoji* and *to* can be removed, thus affording free ventilation and a grateful circulation of air. In winter the former kind of hospitals are heated by air-tight wood-stoves and the latter by charcoal in open boxes. In all, during cold weather, the air continues vitiated, except when the doors are open. In none of the hospitals, except the new one at Kaja Yashiki, have I seen attempts put forth to secure warmth and pure air at the same time. At Tokio and Yokohama both styles of building are now in use, as well as the Japanese and Western room equipment. Not having been south of Tokio, I cannot give facts concerning their hospitals.

On the mainland I was most pleased with the pure Japanese building. I think it better adapted to the climate of the country and the habits of the people than the Western hospital. The use of the *juton* is not to be commended, as they soon become soiled and contaminated, and they are rarely cleansed. The non-use of sheets and pillow-cases, and the infrequent changes of personal linen, are to be deplored. Blankets are slowly supplanting the over-juton. The hospital diet-list is limited. It usually consists of rice, *daikon* (pickled radish), fish, and tea, to which are added, when procurable, eggs, fowl, and flesh. The people are slowly learning the value of milk, and are acquiring a taste for it. The hospitals use more and more each year. When fresh milk cannot be obtained, the American condensed milk is substituted. The drugs most in use are iodide of potassium, morphia, quinia, iron, and sweet spirit of nitre; though the native physicians are much given to the use of the novelties in the drug line.

Upwards of fifty per cent. of the female patients are prostitutes, who, since the notification of April, 1876, requiring each prefecture to adopt "efficient measures for the periodical inspection of registered public women, and for the isolation and cure of those who are affected by venereal disease," are sent to the hospitals and cared for at the expense of the master of their brothel, who also pays for their periodic inspection. Of the male patients, a very large percentage are in for venereal and its sequelæ. Next to venereal, the most common diseases are *kakke* (a disease of marked debility, dropsy of the limbs accompanied by variable nervous symptoms), consumption, general debility, and cutaneous and ophthalmic maladies. As yet but little operative surgery, except for acute cases, has been attempted by the native physicians. Owing to their lack of accurate anatomical knowledge and the absence of material to practise upon, they avoid active interference. The out-patient departments have a run of maladies similar to those in the American cities, except that here there is a marked increase of venereal, of ophthalmic, and of contagious cutaneous maladies.

In 1875 the Home Department created a new office, called "Yei-sei-kioku," or Central Sanitary Bureau. The aim of this bureau is to aid in the change from the old to the new and better system of medical instruction; to forward the improvement of physicians and apothecaries; to draw the attention of local sanitary officers and the public in general to the great importance of the observance of sanitary regulations; to collect, analyze, and publish facts concerning the cause of morality; to take measures for the inspection of drugs, chemicals, and patent medicines; to prevent the entrance or extension of epidemic maladies, etc. It is to be hoped that the main objects of this bureau will soon be attained, for a more thorough education of the physicians and apothecaries, a definite knowledge of the importance of pure air, of wholesome water, of efficient sewerage, of personal and household cleanliness among the people, and an enforcement of the official notifications now issued, are subjects of the deepest moment to the future well-being of this nation in the "Land of the Rising Sun."

J. CUTTER, M.D. Harv.,
Consulting Physician to Kaitaku-Shi, Japan.

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AMPUTATION OF THE CERVIX UTERI.—A discussion took place recently in the Société de Chirurgie, Paris, concerning the best instrument for this operation. Most of those who took part in it favored the galvano-cautery, on the ground that the thermo-cautery produced too much heat and smoke, while the knife was dangerous on account of the hemorrhage it caused.—*Jour. de Méd. de Bordeaux; New York Medical Record.*

REVIEWS AND BOOK NOTICES.

ON THE BILE, JAUNDICE, AND BILIOUS DISEASES. By J. WICKHAM LEGG. New York, D. Appleton & Co., 1880.

The first thing that will attract the attention of the average American reader of this book is the dedication to Prince Leopold by his "ROYAL HIGHNESS'S *most dutiful, most devoted, and most humble servant.*" Surely, he who prostrates himself before Juggernaut cannot blame any one if Juggernaut goes over him. Dr. Fothergill can take comfort from this page of dedication as a public testimonial to the truth of all he has written in regard to the social position assumed by many of the profession in England. As becomes an offering to royalty, the book is sumptuously printed, with large, open, very handsome type, on tinted paper, and adorned with excellent chromo-lithographs. The margins are wide, the style that of pure English, and the material very good. Altogether, Prince Leopold will not demean himself if he most graciously accepts from the humble and trembling hands of his servant this product of many years' labor.

It would perhaps have been wiser to have omitted from the American edition the dedication; but, after all, no one will be deterred thereby from perceiving the great merit of the book itself. It seems to us an exhaustive epitome of all that is known upon the subject. There is not much of the author's own researches in it, but there is enough to show that both in the laboratory and in the clinic-room he has done work enough to enable him fully to grasp the methods and results of other men.

Professor Stricker once said to us in his parlor in Vienna, "You Americans seem to know what other people do better than any one else, even if you never do any work yourselves."

Certainly, in regard to his general acquaintance with the world's literature upon his subject, Dr. Legg deserves to rank with the best of us.

THE BRAIN AS AN ORGAN OF MIND. By H. CHARLTON BASTIAN, M.A., M.D. New York, D. Appleton & Co., 1880.

The present volume of nearly seven hundred pages is composed of thirty chapters, and an appendix in which is considered the muscular sense. The first three chapters are devoted to a general discussion of the uses and nature of a nervous system and of sense-organs; then the nervous systems of Mollusks, Vermes, Arthropods, and a discussion of the data obtained, occupy four chapters; in four chapters are described the development and structure of the brains of Vertebrates, and in as many the development and structure of the human brain. The remainder of the book considers "The Scope of Mind, Reflex Action, and Unconscious Cognition;" sensation, ideation, and perception; consciousness in lower animals; instinct, nascent reason, emotion, imagination, and volition; mental capacities of higher brutes; from brute to human intelligence; the functional relations of the principal parts of the brain; phrenology, old and new; will and voluntary movements; cerebral mental substrata; speaking, reading, and writing; cerebral relations of speech and thought; further problems in regard to cerebral localization.

Such is the general scope of the task which Dr. Bastian has set himself, and which he has performed with ability. There is too much anatomy to make the work easy reading, but the reader can do as we have done—skip or skim over much of this comparative anatomy—without any detriment to his understanding of the human brain and its workings.

Dr. Bastian has evidently studied with care the metaphysical as well as the physiological aspect of psychology, and thinks clearly and well. There are, of course, some of his views with which many will not agree; for probably no two men of any originality and knowledge of the subject agree on all points at present in their psychological beliefs.

The theory of cerebral localization which he adopts, and of which we believe that he is in a large measure the author, is certainly ingenious, and commends itself to us as possibly true in whole or in part: we say in part, because there is no *a priori* reason why some organs of the brain should not be arranged according to it, and others according to the plan more usually believed in. Dr. Bastian believes that certain functions are performed by certain cortical ganglion cells, which are not, however, aggregated in a narrow territory, but are more or less diffused through the cortex, being so bound together by commissural processes as to act together; the pathological results obtained by the clinician and experimenter he explains by supposing that the nerve-fibres running from the lower centres to these scattered cells are closely aggregated until they reach the cortex, where they radiate to their respective destinations. Under these circumstances it is plain that a clot or wound at the point of aggregation of the fibres would interrupt the function of all the ganglion cells concerned, however widely they might be separated. The new theory, though ingenious, hardly removes any of the more serious objections to cerebral localization as previously taught, and, although plausible, will probably not be generally adopted until some more cogent evidence of its truth is brought forward.

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VEGETABLE PEPTONE.—125 parts of pea flour, ½ part of salicylic acid, and ½ part of pepsin are digested with 1 quart of water and evaporated to about 1½ pints; add salts and spices.

GLEANINGS FROM EXCHANGES.

NEW METHOD OF ARRESTING GONORRHŒA.—Dr. W. Watson Cheyne, in a communication to the *British Medical Journal* (vol. ii., 1880, p. 124), expresses the opinion that the extreme contagiousness of gonorrhœa, the existence of a distinct period of incubation, and the steady spread of the inflammation from a given spot, all point strongly to a parasitic origin. Acting on this idea, Dr. Cheyne made a number of cultivation experiments, in which he produced large numbers of organisms in the pus of gonorrhœa. In addition, he believes that the mucous membrane itself in the neighborhood, as well as the pus of the inflamed parts, is the seat of organisms. In the case of gonorrhœa, then, he supposes that at the time of infection a small number of the specific organisms, which in all probability possess a considerable resisting power to the destroying action of the healthy living tissues, are retained in the urethra; that these go on developing; that the products of their growth irritate and weaken the mucous membrane in their vicinity; that the organisms can then penetrate into and live in that weakened tissue; and that the extension of this process over a portion of the mucous membrane of the urethra is the cause of the inflammatory symptoms. Granting the correctness of this theory, what is wanted is a medicinal application which shall destroy the organisms without irritating the inflamed and highly sensitive mucous membrane. Iodoform and oil of eucalyptus appeared to Dr. Cheyne to possess the proper qualities; and he has accordingly experimented with these drugs, mixed with cacao butter, made up into bougies of various lengths. These bougies possess among other advantages over injections this,—that, having the diameter of a No. 9 or No. 10 catheter, they expand and smooth out the swollen mucous membrane. Dr. Cheyne has found a combination of the two drugs better than either alone. He employs the following formula: iodoform, five grains; oil of eucalyptus, ten minims, in a bougie of forty grains. The specific element of the disease having been eliminated by this means, antiseptic injections are employed in addition, for the purpose of preventing the discharge from becoming septic and irritating. A saturated solution of boracic acid in water, or an emulsion of eucalyptus oil (one ounce of eucalyptus oil, one ounce of gum acacia, water to forty or twenty ounces), to be used for two or three days. At the end of that time injections of sulphate of zinc, two grains to the ounce, may be begun. The usual precaution of rest, diluent drinks, etc., must be employed. In using the bougies, the patient is first told to empty his bladder, partly to clear out his urethra, partly to prevent the necessity of expelling the antiseptic from the canal for several hours. He then lies down on his back, and a bougie from four to six inches long is introduced, and the orifice of the urethra is closed by strapping. The bougie ought to be dipped in eucalyptus oil or in carbolic oil (1–20) before insertion. The patient is instructed to refrain from passing water, if possible, for the next four or five hours. If the case be severe and advanced, he takes another bougie home, and is instructed to introduce it in the same manner after he next passes urine. On that evening, or on the following day, he commences the antiseptic injection, which he uses four or five times daily. On the third or fourth day, when the symptoms have entirely subsided, an injection of sulphate of zinc, two grains to the ounce, is begun. Dr. Cheyne has employed this method in about forty cases, and in all the result has been the arrest of the progress of the gonorrhœa. For a day or two the purulent discharge continues, but afterwards it steadily diminishes in amount, becoming in four or five days mucous, and ceasing altogether in a week or ten days. At the same time the scalding and pain and the symptoms of inflammation rapidly diminish, and disappear completely in about thirty-six to forty-eight hours. In fact, the case becomes no longer one of virulent gonorrhœa, but one of simple urethritis, rapidly progressing towards recovery if properly treated.

THERAPEUTIC USES OF HYOSCYAMIN.—At a recent meeting of the Cambridge Medical Society (*British Medical Journal*, vol. ii., 1880, p. 17) Dr. Bacon gave an account of the preparation known as "hyoscyamin" and of its therapeutic uses. There are two preparations sold under that name, both made in Germany. One is Merck's "extract of hyoscyamin," and the other is a crystallized preparation in the form of a whitish powder and of variable strength. Dr. Bacon's experience has been limited to Merck's extract. It is most conveniently administered dissolved in alcohol, one grain to the drachm. The solution mixes badly with water, a resin forming on the side of the bottle. The preparation deteriorates by keeping; if it becomes greenish in color, this is a sign that its strength is lessened and that its action cannot be relied on. It is called by the manufacturer the "extractive amorphous alkaloid" of hyoscyamus, and is very costly. With this preparation Dr. Bacon has found the effects much more potent and more certain and reliable than those of ordinary henbane. Its action is that of a powerful sedative and hypnotic, and it is the only sedative and hypnotic, in his opinion, whose action may be certainly relied on. Doses as large as two or three grains (of Merck's extract) have been administered. Dr. Bacon himself has never given more than a grain and a quarter, and his usual preparation is three-quarters or half a grain. If three-quarters are given to a maniacal patient in a state of excitement, he will be reduced in half an hour to absolute helplessness, and probably will be asleep or comatose. The lips become red, the face dusky, and the saliva flows from the mouth. The pulse is quickened, and there is dilatation of the pupil lasting for twenty-four hours; the other symptoms pass off in about twelve hours. Vomiting occurred in two or three of Dr. Bacon's cases. The drug is especially valuable in treating the maniacal condition (acute or chronic). It has been used in delirium tremens, and its power of inducing quietude and sleep to a certainty indicates its value in that condition. In some cases the beneficial results flowing indirectly from its use have been so great that Dr. Bacon has, after a while, been able to dispense with the use of the drug. Two cases have occurred in his practice which will serve to show when caution is necessary. In the one case (a private patient) only one-half the prescribed dose was given, and the patient, instead of being sent to sleep, was put into a state of excitement and delirium. In the other an accident, fortunately not fatal, followed the administration of the drug. The patient became profoundly insensible and vomited, and part of the vomit (consisting mostly of partly-digested bread) appeared to have got into the air-passages, giving rise to corresponding symptoms.

In the discussion which followed the reading of Dr. Bacon's paper, Dr. Latham said he could not join in Dr. Bacon's opinion that henbane in its usual pharmacopœial form is quite unreliable. The potency of the leaves, no doubt, depends on the time of gathering them and on the care with which they are dried. The President (Dr. G. E. Paget) referred to the experience of a neighboring practitioner, who had the henbane grown near him, and the extract made by a trustworthy person, and who had always found the drug thus obtained to be potent and reliable in its action. He had the other day prescribed henbane in a bad case of epilepsy, which no other drug had benefited, and the result was that the patient had been altogether free from fits for three weeks, and when they came back they were less frequent than before.

PREVENTION OF SECONDARY HEMORRHAGE.—Dr. Parona, of Bologna, considers that the essential condition for the success of ligature or torsion of a blood-vessel is the formation of a clot, and this he proposes to effect more rapidly and certainly by the injection of a few drops of hydrate of chloral into the lumen of the artery. The usual ligature may be placed on the vessel, or two ligatures may be used and the chloral injected into the portion of the artery enclosed between them. He tried a variety of substances, but found chloral superior to all others as a coagulating agent, the resulting clot fitting much more closely the calibre of the vessel, and not shrinking as does that yielded by perchloride of iron. He performed numerous experiments on dogs before venturing to practise his method on the human subject: he has lately, however, tried it in two cases with excellent results. Besides acting as a hæmostatic, the chloral acts as a sedative, and thereby exerts a favorable influence from the first on the progress of the case.—*London Medical Record*, April 15, 1880; *New York Medical Record.*

FURUNCLES OF THE MEATUS AUDITORIUS.—Dr. Weber-Liel fills the meatus with alcohol containing a minute quantity of corrosive sublimate, repeating the procedure every hour or so. The alcohol abstracts water from the tissues and dulls sensibility, and hence relieves the pain speedily. If used early enough it sometimes cuts short the process, but at any rate it prevents the development of further furuncles. During the last two years Dr. Weber-Liel has used in addition injections of carbolic acid, employing a five-per-cent. solution of the pure article and injecting with an ordinary hypodermic syringe two to four drops in the point of the swelling. If pus has not already been formed, its formation is prevented. Three hours later he begins with instillations of alcohol, and if this does not suffice he repeats the injection of the carbolic acid. A stronger solution or a larger quantity of the injection produces an intense burning, lasting one to two hours; but it is sure to abort the process.—*Deutsche Med. Wochenschrift*, 1880, No. 15.

CASE OF QUASSIA-POISONING.—Mr. D. T. Reckitt (*Lancet*, vol. ii., 1880, p. 260) reports the case of a child four years of age, brought to the hospital under his charge, to whom by mistake six ounces of a strong instead of a simple infusion of quassia were administered by enema for ascarides. With the exception of a tablespoonful, all was retained, and the child was taken from the hospital. Its mother, however, returned an hour and a half later, stating that the child was only just alive. She also said that in taking it from the hospital it reeled very much, as if tipsy, and she was obliged to carry it. Mr. Reckitt visited it at once, and found it in an alarming condition, ghastly pale, the lips bloodless, the head thrown back, the surface cold, eyes closed and pupils contracted, with no action to light, respiration inaudible, and the pulse not to be felt. It was quite unconscious.

The feet were placed in very hot water, which immediately roused the child with a violent scream. Some strong brandy-and-water was given, and swallowed with difficulty, but the pulse returned. The child was kept roused by having the feet placed occasionally in hot water and mustard cataplasms applied to both calves. There seemed to be a strong desire to sleep, when the pulse became much slower and more feeble: so the feet were again put into hot water, and small but strong doses of brandy were given internally. After an hour and a half the child vomited once, and then seemed a little better, but continued unconscious. Half a drachm of ether, one drachm of compound spirit of ammonia, and half an ounce of brandy diluted with warm water were injected into the rectum. This acted favorably, restoring color and warmth to the surface. The breathing and pulse became more natural. During all this time, except when allowed to sleep, it moaned very much. As it was looking better, it was now allowed to sleep a couple of hours, and was then roused and a little brandy was given. From this time its recovery was rapid. The quassia produced no effect upon the bowels.

TRAUMATIC CARDIAC HERNIA.—Dr. Lambert (*Lancet*, vol. ii., 1880, p. 261) reports the case of a man who was struck in the region of the heart by the point of a bar of iron, twenty-five feet long and three inches broad, falling about ten feet. He fell insensible, remaining so for half an hour, when he partly regained consciousness. On examination at the end of that time he was found collapsed, with great pain on speaking and over the cardiac region, where comminuted fractures of the second, fifth, and sixth ribs were found. On coughing or deep inspiration a very prominent bulge occurred in this locality, beating synchronously with the pulse. The parts were gently pressed into position and covered with a tin shield. With the exception of some general disturbance and feverishness on the fourth day, the patient did well and made a good recovery, and has never since complained of any discomfort referable to his injury.

ACUTE ECZEMA OF THE FACE FOLLOWING NEURALGIA.—Dr. John Cavafy (*Brit. Med. Jour.*, vol. ii., 1880, p. 126) gives the case of a patient admitted to the hospital under his care with severe pain in the left side of the head and face. The pain extended over the orbit, cheek, and lower jaw, and also to some extent over and behind the ear. The pain was intermittent. Quinine was given (nine grains daily for four days) without benefit. At the end of that time, however, the pain subsided. On the following day that side of the face was swollen, and the swelling continued to increase for several days, at the end of which an attack of acute eczema set in. The whole side of the face was red and extremely œdematous, the eyelids enormously swollen and puffy. The left ear and neck were in the same condition, and the entire surface was streaming with discharge from numerous small vesicles. At the margin of the scalp and beard there were a few yellowish gummy crusts. The disease yielded to local treatment.

TREATMENT OF BROMIDE RASH BY SALICYLIC ACID.—Dr. William Prowse (*Brit. Med. Jour.*, vol. ii., 1880, p. 127) uses a saturated solution of this acid (one grain to an ounce of water) applied frequently, and, when possible, constantly, by means of lint and oiled silk. He gives the case of a young lady who had suffered from large sores on the calves of both legs, on the forearms, and other parts, resulting from the constant use of the potassic bromide during ten years. Thirty grains per diem is the utmost quantity now taken. For the past two years arsenic has been used in connection with the bromide, controlling the eruption to some extent, but not entirely preventing the recurrence of the eruption. At first Dr. Prowse used various astringents with more or less good results, but the salicylic acid lotion appears to act as an antidote, for in this and other cases of a less severe character in which he has prescribed it its good effects are immediately seen, and wounds of the size of the palm of the hand have been soundly healed in a few (less than seven) days.

REFLEX NERVOUS DISORDERS.—At a recent meeting of the British Odontological Society (*Brit. Med. Jour.*, vol. ii., 1880, p. 18) Mr. Mummery read notes of some cases in which diseased teeth had caused reflex disorders of the nervous system. A young lady came to him in January, 1878, complaining of severe neuralgia of the left side of the face, which had begun soon after the stopping of an upper molar some months before: she had also become subject to marked external strabismus of the left eye. Mr. Mummery extracted the tooth, and in two or three days both pain and squint had gone. In November she presented herself again; the pain had returned as bad as ever; there was ptosis of the left eyelid, the pupil was widely dilated, and her hair was perfectly blanched to the extent of fully two inches over her left temple. Mr. Mummery found that the next tooth to that which he had extracted had become carious. He at once removed it, and in a very short time the pain had disappeared and the eye recovered its natural appearance; but the patient still retained the patch of hair on her left temple. Mr. Mummery related several other remarkable and interesting cases: in some of these, retarded wisdom-teeth had been the cause of reflex nervous disturbance; in others, exostoses had formed on the fangs, though the teeth appeared perfectly sound.

LOCAL ANÆSTHESIA WITH BROMIDE OF ETHYL.—M. Terrillon stated, before the Paris Surgical Society, that he had employed the bromide of ethyl about a dozen times in operations with the thermo-cautery. In a minute or two a white patch indicating cutaneous anæsthesia is produced, and, on the pulverization being continued, insensibility of the tissues is produced to the depth of two centimetres. The production of the white patch is not essential, as anæsthesia may exist when it is absent. The results have proved very satisfactory, but in two cases M. Terrillon did not succeed, owing, as he believes, to the pulverizators which he employed having too small a jet.

FATAL ULCERATION OF THE DUODENUM PRODUCED THROUGH SCALDING BY HOT WATER USED AS A HÆMOSTATIC.—Dr. J. R. Greenwood (*Lancet*, vol. ii., 1880, p. 298) reports the following case. Serious secondary hemorrhage having occurred in a case of amputation of the penis under his care, and the usual hæmostatics having failed, the bleeding surface was sponged with hot water, with the effect of causing complete cessation of the hemorrhage. A day later, however, the wounded surface began to slough, and sloughing extended to the parts of skin adjacent. Symptoms of peritonitis showed themselves, and the patient died a day or two later. At the post-mortem examination a deeply indented elongated ulcer, with a well-defined margin, about an inch long and half an inch broad, could be seen. It commenced half an inch from the pylorus, the gastro-intestinal mucous membrane being otherwise healthy. All the coats of the intestine were destroyed, so that the pancreas formed the base of the ulcer. There was a rent into the peritoneal cavity, with signs of peritonitis. Dr. Greenwood believes the case analogous to ulceration of the intestines observed after burns.—(? ED.)

HEREDITARY TENDENCY TO FRAGILITAS OSSIUM.—In a note to the *British Medical Journal* (vol. ii., 1880, p. 14), referring to a case of hereditary tendency to fragilitas ossium reported by Mr. Greenish in a former number of that journal, Mr. William Sedgwick mentions cases described by Pauli. Pauli's cases included four members of one generation; their father and grandfather had suffered from fractures. The brittleness of the bones had been observed to come on during the advance from childhood to puberty, and, unlike the brittleness resulting from spirit-drinking and from diseases in which the bony tissues are sometimes secondarily affected, the fractured bones in all of Dr. Pauli's cases, as in those described by Mr. Greenish, readily united.

CHLORIDE OF CALCIUM IN PHTHISIS.—Dr. J. Hunt writes to the *British Medical Journal* (vol. ii., 1880, p. 15) confirming Dr. Sawyer's views as to the results of the chloride of calcium treatment in phthisis. In six cases under Dr. Hunt's care five improved considerably, all presenting an increase in weight, improvement in appetite, and diminution or loss of night-sweats. The remaining case, one of laryngeal phthisis, continued to get worse. In ordinary cases he gives ten grains dissolved in water three times daily, conjoined, as symptoms indicate, with ergot, morphia, belladonna, etc., always at the same time giving cod-liver oil. It is best to keep the salt in solution, because of its great tendency to deliquescence.

TREATMENT OF PHTHISICAL COUGH.—Correspondents in the *British Medical Journal* recommend the following: 1. Tincture of gelseminum in fifteen to twenty-five minim doses thrice daily, with dilute phosphoric acid. If there be much expectoration, benzoic acid. 2. Hydrobromic acid in doses of twenty minims. It may be given with the addition of spirit of chloroform; inhalation of vapor of iodine. 3. Fifteen minims of hydrobromic acid and ten minims of spirit of chloroform in a dessertspoonful of water four or five times a day, with a pill containing a quarter of a grain of codeia, three times a day. 4. ℞ Tinct. pruni Virginianæ, ℥i; glycerin., ʒss; "nepenthe," ♏v; aquæ, q. s. To be taken every three or four hours in troublesome cough, a double dose being given at bedtime.

A Thousand Ovariotomies.—On June 11, Mr. Spencer Wells performed ovariotomy for the one-thousandth time. Out of his first 500 cases, 127 died, a mortality of 25.4 per cent. Of the next 300 cases, 77 died, giving a mortality of 25.6 per cent. Of the next 100 cases, 17 per cent. died; and of the last 100 cases, 11 per cent. died. Mr. Wells began to use antiseptic precautions shortly before the beginning of the last 100 cases. The grand total of all the operations gives 768 recoveries and 230 deaths. According to certain calculations made on the basis of life-insurance expectancy, 22,272 years of human life have been added to society by the direct agency of Mr. Spencer Wells.—*New York Medical Record.*

Extirpation of Kidney.—At the Charing Cross Hospital, in London, Mr. Barwell lately extirpated the left kidney of a girl of sixteen, the removal being effected through an opening in the loin. Long-standing and severe suppuration had greatly reduced the patient's strength. The organ was large (six ounces and three-quarters), tuberculous, and suppurating. Since the operation the patient has been doing so well that hopes of her recovery are entertained.—*British Medical Journal.*

MISCELLANY.

Death from Insoluble Pills.—At a post-mortem examination held in North Carolina, on the body of a lady who died from inflammation and suppuration in the abdominal cavity induced by no known cause, it was discovered that death had resulted from the impaction of five or six hardened pills in the appendix vermiformis. As these pills had not been administered during her last illness, it was not known how long they had been there, or whether all entered at the same time.

To Dry Bottles Quickly without Heat.—F. Lenggenhager (Utica, New York) recommends the following plan. First clean the bottles properly, rinse them with rain-water, and let this drain off for a short time; then rinse the bottles with strong alcohol, and finally with ether. In a few minutes the bottles will be perfectly dry. Bisulphide of carbon may in some cases be substituted for ether. —*Druggists' and Chemists' Circular.*

Free Bathing.—It is said that upwards of one hundred and fifty thousand persons have availed themselves of the free swimming-baths provided by the city at the beginning of the summer.

From reports in the daily papers the death of Miss Neilson, the distinguished actress, was caused by the rupture of a varicose Fallopian vein and consequent fatal internal hemorrhage.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM SEPTEMBER 5 TO SEPTEMBER 18, 1880.

Moore, John, Major and Surgeon.—Assigned to temporary duty as member of the Medical Examining Board in New York City. S. O. 194, A. G. O., September 11, 1880.

Cronkhite, H. M., Captain and Assistant-Surgeon.—Having reported in person at these Headquarters, is assigned to temporary duty at Fort Sidney, Nebraska. S. O. 83, Department of the Platte, September 7, 1880.

Ainsworth, F. C., Captain and Assistant-Surgeon.—Granted leave of absence for six months. S. O. 196, A. G. O., September 14, 1880.

Moseley, E. B., Captain and Assistant-Surgeon.—The leave of absence granted him from Headquarters, Department of the Platte, August 17, 1880, is extended two months. S. O. 187, A. G. O., September 3, 1880.

Price, C. E., Captain and Assistant-Surgeon.—To report in person to the Commanding General, Department of the East, for assignment to duty. S. O. 196, c. s., A. G. O.

Reed, W., Captain and Assistant-Surgeon.—To proceed without delay to Creedmoor, Long Island, for temporary duty with the United States troops at that point. S. O. 156, Department of the East, September 6, 1880.

Carter, W. F., First-Lieutenant and Assistant-Surgeon.—His assignment to duty at Post of San Diego, Texas (par. 2, S. O. 161, c. s.), revoked. S. O. 176, c. s., Department of Texas.

By par. 2, S. O. 190, A. G. O., September 7, 1880, the following changes are made, to take effect October 1, 1880:

The following-named officers are relieved from duty in the Department of the East, and will report in person to the Commanding Generals of the departments set opposite their respective names for assignment to duty:

Asst.-Surgeon	D. G. Caldwell,	Dept. of the	Platte.
" "	J. H. Patzki,	" "	South.
" "	B. F. Pope,	"	Dakota.
" "	W. J. Wilson,	"	"

Assistant-Surgeon Frank Meacham is relieved from duty in the Department of Texas, will proceed to Boston, Mass., and, upon arrival, report by letter to the Surgeon-General.

Assistant-Surgeon R. H. White will report in person to the Commanding General, Department of West Point, for assignment to duty at the United States Military Academy, relieving Assistant-Surgeon Henry Lippincott, who, when relieved, will proceed to New York City, and, upon arrival, report by letter to the Surgeon-General.

Assistant-Surgeons M. K. Taylor and J. H. T. King are relieved from duty in Department of Texas, will proceed to New York City, and, upon arrival, report by letter to the Surgeon-General.

Assistant-Surgeon W. Matthews will report in person to the Commanding General, Department of the Missouri, for assignment to duty.

Assistant-Surgeon T. A. Cuningham is relieved from duty in Department of Dakota, will proceed to New York City, and, upon arrival, report by letter to the Surgeon-General.

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